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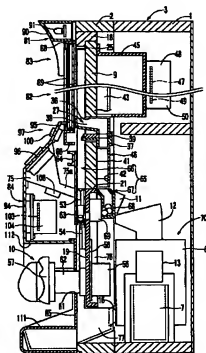
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(54) 【発明の名称】 組み合わせ遊技機

(57) 【要約】

【課題】 遊技機本体を薄型化しつつ、基板交換の効率化や製作コストの低減が可能な組み合わせ遊技機を提供する。

【解決手段】 外枠1と、該外枠1に開閉可能に取り付けられる前枠2と、該前枠2に着脱可能に装着される組み合わせ遊技用の遊技盤9と、外枠1内に設けられ、入賞に関連してメダルを払い出すメダル払い出し装置70とを備え、遊技盤9の遊技領域にゲーム毎に所定数の遊技球を打ち込みながら、その終了毎に所定の休止時間においてゲームを繰り返し可能にした組み合わせ遊技機で、遊技盤9の裏面に、メダル払い出し装置70を避けた位置に複数の電気回路基板を装着する基板取付部材45を備える。



## 【特許請求の範囲】

【請求項 1】 外枠(1)と、該外枠(1)に開閉可能に取り付けられる前枠(2)と、該前枠(2)に着脱可能に装着される組み合わせ遊技用の遊技盤(9)と、前記外枠(1)内に設けられ、入賞に関連してメダルを払い出すメダル払い出し装置(70)とを備え、前記遊技盤(9)の遊技領域(26)にゲーム毎に所定数の遊技球を打ち込みながら、その終了毎に所定の休止時間をおいてゲームを繰り返し可能にした組み合わせ遊技機において、前記遊技盤(9)の裏側に、前記メダル払い出し装置(70)を離れた位置に複数の電気回路基板を装着する基板取付部材(45)(79)を備えたことを特徴とする組み合わせ遊技機。

【請求項 2】 前記メダル払い出し装置(70)は、前記外枠(1)の内側に固定され、前記基板取付部材(45)(79)は、前記遊技盤(9)の裏面に取り付けられていることを特徴とする請求項 1 に記載の組み合わせ遊技機。

【請求項 3】 前記遊技盤(9)側の遊技動作の制御を行う主制御基板(47)と、遊技状態に基づいて表示ランプ(130)の表示制御を行うランプ表示制御基板(49)と、遊技状態に基づいて音声発生手段(92)が発生する効果音等の音声の制御を行う音声制御基板(51)と、誘導図柄表示手段(28)の誘導図柄(28a)の変動制御を行う図柄制御基板(34)との少なくとも 2 を、前記基板取付部材(45)(79)に取り付けたことを特徴とする請求項 1 又は 2 に記載の組み合わせ遊技機。

【請求項 4】 前記前枠(2)を閉じた状態において、前記基板取付部材(45)(79)に取り付けた前記電気回路基板(47)(49)(51)(34)が前記メダル払い出し装置(70)よりも上方に位置するように構成したことを特徴とする請求項 1 ～ 3 の何れかに記載の組み合わせ遊技機。

【請求項 5】 発射手段(10)から遊技盤(9)へと遊技球を案内する発射側経路(66)と、前記遊技盤(9)から前記発射手段(10)へ遊技球を戻す戻り側経路(67)とを含む閉ループ状の循環経路(65)を構成し、該循環経路(65)中に複数の個の遊技球を封入したことを特徴とする請求項 1 ～ 4 の何れかに記載の組み合わせ遊技機。

## 【発明の詳細な説明】

## 【0001】

【発明の属する技術分野】 本発明は、アレンジボール機、雀球遊技機等の組み合わせ遊技機に関するものである。

## 【0002】

【従来の技術】 遊技媒体としてメダルを用いる組み合わせ遊技機、例えばアレンジボール機は、遊技機本体に装着された遊技盤の遊技領域の下部に、複数の入賞口に有する入賞口手段を配置すると共に、その上側に誘導図柄表示手段、作動手段、特定入賞手段、価値増加手段等の各遊技部品を配置し、遊技機本体側にメダルを払い出すメダル払い出し装置を装着している。

【0003】そして、ゲームに際しては、発射手段によ

り遊技領域へと所定数、例えば 16 個の遊技球を打ち込み、その遊技球が入賞口手段の何れかに入賞口に入賞して所定の入賞役が成立すれば、その入賞役の成立の難易度に応じて所定の得点等の遊技価値を付与して、その獲得遊技価値に応じて払い出し手段により遊技球、メダル等の遊技媒体を払い出し、また誘導図柄表示手段の変動後の停止図柄が「7・7・7」等の特別態様の場合には、特別遊技状態が発生して価値増加手段に遊技球が入賞することにより、得点等の遊技価値を増加させる。

【0004】このようなアレンジボール機では、CPU、ROM、RAMその他の電子部品が装着された制御基板により制御を行う電子制御方式を採用しており、制御基板は、遊技機本体の前面側に開閉自在に枢着された前枠の裏面側などに、個別の基板取付部材を介して装着されていた。

## 【0005】

【発明が解決しようとする課題】 このように、各制御基板を夫々個別の基板取付部材を介して装着している従来のアレンジボール機においては、例えば機構変更を行う場合など、関連する複数の制御基板を同時に交換する際には、各制御基板を遊技機本体から個別に着脱する必要があるため、作業効率が悪いという問題があった。また、基板取付部材を各制御基板毎に設けることにより部品点数が増加し、また各制御基板が分散されるために各制御基板間の配線が煩雑になるなど、製作コストがアップする一因となっていた。

【0006】更には、前記のようなメダル式のアレンジボール機においては、大型のメダル払い出し装置を遊技機本体内部に備えているため、遊技機本体の特に奥行き方向の寸法が大きくなる傾向にあり、それを如何に小さくするかが課題であった。

【0007】本発明は、このような問題点に鑑み、遊技機本体を薄型化しつつ、基板交換の効率化や製作コストの低減が可能な組み合わせ遊技機を提供することを目的とする。

## 【0008】

【課題を解決するための手段】 本発明は、外枠 1 と、該外枠 1 に開閉可能に取り付けられる前枠 2 と、該前枠 2 に着脱可能に装着される組み合わせ遊技用の遊技盤 9 と、前記外枠 1 内に設けられ、入賞に関連してメダルを払い出すメダル払い出し装置 70 とを備え、前記遊技盤 9 の遊技領域 26 にゲーム毎に所定数の遊技球を打ち込みながら、その終了毎に所定の休止時間をおいてゲームを繰り返し可能にした組み合わせ遊技機において、前記遊技盤 9 の裏側に、前記メダル払い出し装置 70 を離れた位置に複数の電気回路基板を装着する基板取付部材 45、79 を備えたものである。

## 【0009】

【発明の実施の形態】 以下、本発明の実施形態を図面に基づいて評述する。図 1 ～ 図 10 は本発明をメダル投入

式のアレンジボール機に採用した一実施形態を例示する。このアレンジボール機は、図1〜図4に示すように、外枠1と、この外枠1の前側に配置された前枠2とを備えた遊技機本体3を有し、その前枠2は左右一端側の縦方向のヒンジ4（図7参照）を介して外枠1に開閉及び着脱自在に装着されている。

【0010】遊技機本体3には、その前面側に前面パネル5が装着されると共に、外枠1側にメダル払い出し装置70、補助タンク7、電源ユニット8等が設けられ、前枠2側に遊技盤9、発射手段10、メダル選別手段11が設けられる等、遊技機本体3の内部で前面パネル5の裏側に、遊技盤9を含む各種の内部機構が設けられている。

【0011】メダル払い出し装置70は、遊技媒体としてのメダルを貯留するメダルホッパー8と、投入メダルを受け入れるメダルシュート12と、内部のメダルが満杯状態のときに、余剰メダルを補助タンク7へと溢流させる溢流口13と、景品用のメダルを払い出す払い出し手段14とを備えている。払い出し手段14は、メダルホッパー8内のメダルを景品用又は返却用として払い出すための、メダルホッパー8の下部側に設けられ、モータ等の駆動手段15によりメダルホッパー6内の回転体（図示省略）を駆動して、メダル払い出し口16から前側へとメダルを払い出すようになっている。なお、補助タンク7は出し入れ自在である。また、電源ユニット8には電源基板17が設けられている。

【0012】遊技盤9は、前枠2の内部の遊技盤装着枠18と支持枠19との間に裏側から底脱自在に嵌合され、遊技盤装着枠18の裏側に設けられた複数個の締結手段20により着脱自在に固定されている。従って、遊技盤9は、遊技機本体3の前部側、取り分け前枠2に裏側から着脱自在である。遊技盤装着枠18は門型状で、その上側及び左右両側に支持枠19の上側で前枠2の内側面に固定されている。支持枠19は、遊技盤9を下側から受ける遊技盤受け部21を上縁側に一体に備え、前枠2の内部に左右方向に架設されている。支持枠19の裏側には、払い出し制御基板22を収納する払い出し基板ケース23が着脱自在に装着されている。

【0013】遊技盤9の前面には、図1に示すように、ガイドレール25が環状に装着されると共に、このガイドレール25の内側の遊技領域28の下部に入賞口手段27が配置され、また入賞口手段27の上側に誘導図柄表示手段28、特定入賞手段29、得点増加手段24、作動手段30、31、普通入賞手段32、33等の各遊技部品が配置されている。なお、入賞口手段27と各遊技部品との間には、多数の遊技釘（図示省略）が設けられている。

【0014】入賞口手段27は、図5、図7に示すように、遊技盤9の開口部36に裏側から着脱自在に装着された入賞ケース37と、この入賞ケース37に横一列状

等に形成され且つ前側から入賞した遊技球を遊技盤9の裏側へと誘導する複数個、例えば16個の入賞口38と、各入賞口38に入賞した遊技球を検出する複数個、例えば16個の入賞検出スイッチ39とを備え、遊技盤9に沿って落下する遊技球が何れかの入賞口38に入賞して、入賞検出スイッチ39がその遊技球を検出するようになっている。

【0015】誘導図柄表示手段28は、1個又は複数個、例えば3個の誘導図柄28aを変動表示可能であって、停電した場合の停電時分の遊技情報、停電復旧後のゲームの復帰予告、復帰時の遊技条件、その他の各種の遊技情報を遊技者に報知するための液晶表示手段40により兼用されている。

【0016】各誘導図柄28aは、作動手段30が遊技球を検出することを条件に所定時間変動して、「7・7」等の特定態様又はそれ以外の非特定態様で停止するようになっている。なお、誘導図柄28aには数字図柄等の適宜図柄が使用されている。誘導図柄表示手段28の裏側には、図柄制御基板34を収納した図柄基板ケース35が着脱自在に装着されている。

【0017】特定入賞手段29は、誘導図柄表示手段28の変動後の誘導図柄28aが特別図柄で停止し確定した後に所定時間開放する開閉体29aを備えると共に、その内部が複数個（例えば3個）の領域に分割され、その一部（例えば中央）が特別作動領域29bとなっている。特別作動領域29bは、遊技球が通過したときに所定条件に基づいて後述の特別遊技状態を発生させ、再度、遊技球が通過したときに、その特別遊技状態を終了させるためのものである。

【0018】得点増加手段24は遊技球が入賞したときに得点を増加させるためのもので、特別遊技状態が発生した場合に作動手段31が遊技球を検出することを条件に所定時間（例えば約3、4秒間）開放する開閉体24aを備え、この得点増加手段24に遊技球が入賞したときに得点を増加（例えば2倍）させるようになっている。

【0019】なお、特定入賞手段29、得点増加手段24、普通入賞手段32、33は、遊技盤9の前側で入賞した遊技球を遊技盤9の裏側に誘導するよう構成され、これらに遊技球が入賞したときに、それに対応する1個又は複数個の入賞口38への遊技球の入賞と同等に取り扱われるようになっている。

【0020】例えば、特定入賞手段29は入賞口38の11番目及び14番目に、得点増加手段24は11〜13番目及び5番目に夫々対応する等、入賞口手段27の遊技球が入賞し難い入賞口38、又は入賞役が成立し難い入賞口38に対応して、それに遊技球が入賞したときに、対応する入賞口38に遊技球が入賞したと同様に、その入賞口38に対応する入賞表示部（後述）が入賞を表示するようになっている。

{0021} 遊技盤9の裏面には、図2及び図3に示すように入賞口手段27、誘導図柄表示手段28、特定入賞手段29、得点増加手段24、作動手段30、31等の各遊技部品、及び図柄基板ケース35を裏側から覆う裏カバー45と、この裏カバー45の下側に配置された球集合ケース46とが着脱自在に装着され、その裏カバー45の裏面には、主制御基板47を収納する主基板ケース48、ランプ表示制御基板49を収納するランプ表示基板ケース50、及び音声制御基板51を収納する音声基板ケース52とが着脱自在に装着されている。即ち、裏カバー45は、複数の電気回路基板を装着可能な基板取付部材の一例であり、主制御基板47、ランプ表示制御基板49、音声制御基板51が複数の電気回路基板の一例である。

{0022} 図5に示すように、裏カバー45は、裏面に装着されている各基板47、49、51を含めて前枠2の後方に突出して設けられているが、それらは前枠2を閉じた状態でメダル払い出し装置70の上方に位置するように配置されている。これにより、外枠1の前後方向の寸法を小さくでき、遊技機本体3の薄型化が可能となつた。

{0023} 球集合ケース46は、入賞口手段27、特定入賞手段29、得点増加手段24等の遊技部品を経て遊技盤9の裏側に誘導された遊技球を集合させるためのもので、図5、図7及び図8に示すように、上側が開口する球集合部41と、この球集合部41で集合した遊技球を下方へと排出する排出口42とを有し、入賞ケース37の下で遊技盤9の裏面に装着されている。なお、入賞口38に入賞した遊技球は、入賞検出スイッチ39で検出された後、入賞口手段27等の内部に停留することなく、球集合ケース46を経て排出口42から排出されるようになっている。

{0024} 球集合ケース46の排出口42は、待機通路68の長さ容易に確保できるように、球集合ケース46の左右方向の略中央より球送り手段69と反対側に偏位して配置されている。また入賞口手段27の左右両側には、特定入賞手段29、得点増加手段24等からの遊技球を球集合ケース46の球集合部41へと案内する球案内通路43が、裏カバー45内を経て球集合ケース46側に突出するように装着されている。

{0025} 発射手段10は、遊技球をガイドレール25を経て遊技盤9の遊技領域26へと発射させるためのもので、図1～図3に示すように、発射レール53と、発射レール53上の遊技球をガイドレール25側に向かって打撃する打撃槌54と、打撃槌54を遊技球の打撃方向に付勢する発射バネ（図示省略）と、カム機構55を介して発射バネに抗しながら打撃槌54を反打撃方向へと間欠的に揺動させるモータ等の発射駆動手段56と、遊技者の把持により発射駆動手段56を起動させ且つその回転操作により発射バネのバネ圧を調整可能な発

射ハンドル57とを備え、取り付け板58等を介して支持枠19に着脱自在に装着されている。また、例えば取り付け板58の裏面側には、発射手段10の発射制御を行う発射制御基板59を格納した発射基板ケース60が着脱自在に装着されている。

{0026} 発射レール53は、遊技盤9側のガイドレール25に対応して支持枠19の前側等に装着されている。打撃槌54は発射レール53上の遊技球を打撃するように、発射レール53に対応して支持枠19の前側に配置され、取り付け板58の前後方向の枢軸により揺動自在に軸支されている。発射ハンドル57は、図5に示すように、前面パネル5側の通孔61を貫通して前側に突出する支持筒62の前端部側に設けられており、遊技者が前面パネル5の前側で把持して回転操作できるようにになっている。なお、発射ハンドル57は、遊技者の把持又は操作を検出するタッチスイッチ（図示省略）のタッチ片が設けられている。

{0027} 発射レール53の前側には、発射レール53及びガイドレール25の発射レール53側の一部分を前側から覆うレールカバー63が設けられている。このレールカバー63は、例えば前面パネル5に左右方向に架設された支持部材64に着脱自在に装着されている。

{0028} 発射手段10側と遊技盤9側との間には、図3、図5及び図8に示すように、これらを含む遊技球用の循環経路65が閉ループ状に形成され、その循環経路65内に複数個の遊技球が封入されている。循環経路65は、発射手段10により発射された遊技球を遊技盤9側へと案内する発射側経路66と、遊技盤9の裏面に通過した遊技球を発射手段10側へと戻す戻り側経路67とを備えている。発射側経路66は発射レール53、ガイドレール25等により構成され、また戻り側経路67は球集合ケース46、待機通路68、球送り手段69等により構成されている。

{0029} 待機通路68は、遊技盤9を通過して戻ってきた遊技球を待機させるためのもので、支持枠19の裏側等の前枠2側に、発射手段10側が低くなるように左右方向に傾斜させて着脱自在に装着され、その上流側が遊技盤9の下端と干渉しない位置で球集合ケース46の排出口42の下側から連通している。球送り手段69は、発射手段10の発射動作に連動して待機通路68内の遊技球を1個ずつ発射レール53上へと送るためのもので、発射レール53と待機通路68の下流側端部との間で支持枠19等に着脱自在に装着されている。

{0030} なお、循環経路65中の遊技球の封入個数は、1ゲームの必要最低個数以上（例えば16～25個程度）が望ましいが、少なくとも複数個あれば良い。また待機通路68は、その封入個数分の遊技球の全て、又は下流側の一部（数個程度）が一列状に整列する程度の長さであることが望ましい。

{0031} メダル選別手段11は、後述のメダル投入

口75から投入されたメダルの正否を選別するためのもので、図6及び図8に示すように、メダル投入口75に対応して支持棒19等に着脱自在に装着されている。そして、このメダル選別手段11は、メダルの移動中に重量、外形、材質等を基準に正否を判別し、その判別結果に応じて不良なメダルを返却シュート76を経て後述のメダル案内樋77へと戻し、正常な(正規の)メダルをメダルホッパー6のメダルシュート12へと案内するようになっている。メダル選別手段11には、正規のメダルを検出するためのメダル検出スイッチ78がその判別部よりも下流側に設けられている。

【0032】前面パネル5は、少なくとも遊技盤9の前側に対応するガラス扉82と、その他の部分との複数個に分割されている。例えば前面パネル5は、図5及び図6に示すように、例えば遊技盤9の前側に対応するガラス扉82の他に、ガラス扉82の上側に配置された上パネル83と、ガラス扉82の下側に配置された中間パネル84と、中間パネル84の下側に配置された下パネル85との複数個に分割され、その下パネル85を除く上パネル83、ガラス扉82、中間パネル84が、前枠2のヒンジ4と同一側で縦方向のヒンジ86により前枠2に対して個別に開閉自在に転着されている。

【0033】ガラス扉82は、遊技盤9の遊技領域26に対応する窓孔87が形成された扉枠88と、その窓孔87を塞ぐように扉枠88に装着されたガラス板89とを備えている。上パネル83は前枠2の上側部に配置され、特別遊技状態、その他のゲーム状態等を表示する上部表示手段81が装着されている。上部表示手段81は、上パネル83に着脱自在に装着された表示カバー90と、表示カバー90内に設けられた1個又は複数個の表示ランプ91とを備え、その表示ランプ91がゲーム状態に応じて点滅発光するようになっている。表示カバー90は、遊技機本体3の左右方向の略幅に亘って前方に突出すると共に、その前側が後ろ下向きに傾斜状に構成されている。

【0034】中間パネル84は、図5〜図7に示すように、前方に張り出す張り出し部94を有し、この張り出し部94の上側部、前下向きに傾斜する表示パネル部95と操作パネル部96とが設けられ、また張り出し部94の下側に、その下端から前枠2側へと後方に屈曲する底壁部93が設けられている。なお、中間パネル84の下端部は、その開閉時に発射ハンドル57と干渉しないように、発射ハンドル57よりも上側で下パネル85と分離され、中間パネル84を閉じたときに、下パネル85の上端部に前側から当接するか、又は下パネル85の上端部と上下に重なるようになっている。下パネル85の裏側には、スピーカ等の音声発生手段92(図10)が着脱自在に装着されている。また、中間パネル84の例えば張り出し部94の裏面側には、預託制御基板103を収納した預託基板ケース104が着脱自在に装

着されている。

【0035】表示パネル部95はガラス扉82の下辺側の近傍に左右方向に細長く形成され、この表示パネル部95の手前側に操作パネル部96が設けられている。表示パネル部95には、左右方向の略中央部分に入賞表示手段97が設けられ、この入賞表示手段97の左右方向の一方にメダル数表示手段98が、他方に得点表示手段99が夫々設けられている。なお、表示パネル部95は、各表示手段97〜99の表示状態を確認し易くなるように、操作パネル部96よりも傾斜角度が大になっているが、操作パネル部96と略同一角度にしても良い。

【0036】入賞表示手段97は、入賞口手段27の各入賞口38と対応する複数個、例えば16個の入賞表示部100を備え、その各入賞表示部100が入賞口手段27の各入賞口38と相对应して前後方向に近接するように横一列状に配置されている。そして、各入賞表示部100は、遊技球が何れかの入賞口38に入賞したときに、それに対応する入賞表示部100が発光、その他によってその入賞を遊技者に表示するようになっている。各入賞表示部100には、各入賞口38に対応して一端側から順番に番号が付されている。なお、入賞表示手段97は、入賞口手段27よりも上側の遊技領域26の中央部等に、入賞表示部100を縦横に所定数(例えば4個)ずつ組み合わせ配置しても良い。

【0037】メダル数表示手段98は、メダル投入口75から投入されたメダルの保有枚数(預託メダル数)を表示するためのものであり、得点表示手段99は、入賞後の成立により付与された得点又は景品用メダルの未払い出し分の得点を表示するためのものであって、これらはメダルの個数、得点を数字で表示するように適宜表示手段により構成されている。なお、得点表示手段99に代えて、又は得点表示手段99と共に獲得メダル数表示手段を設け、その獲得メダル数表示手段により、得点に応じて獲得した獲得メダル数又は未払い出し分の獲得メダル数を表示するようにも良い。

【0038】操作パネル部96には、メダル投入口75、手動選択スイッチ105、自動選択スイッチ106及び返却スイッチ107が設けられている。

【0039】メダル投入口75は、操作パネル部96の左右方向の一方側でヒンジ4、86に近い側の端部若しくはその近傍に配置され、このメダル投入口75よりも左右方向の中央部に手動選択スイッチ105と自動選択スイッチ106と返却スイッチ107とが左右方向に一列状に配置されている。

【0040】メダル投入口75は、遊技対価としてのメダルを投入して預託するためのもので、少なくとも1ゲームに必要な規定数の複数枚、好ましくは複数ゲームの多数枚のメダルを投入し得る大きさのホッパー状に構成されている。なお、メダル投入口75の下部側の出口75aは、メダル選別手段11に対してメダルを1枚ず

つ供給し得るように狭くなっている。

【0041】メダル投入口75の外側には、多数枚のメダルを投入したときに、出口75a側でメダルが整列するようにメダル投入口75を微震動させる振動付与手段108が装着されている。振動付与手段108は、メダル投入口75にメダルを投入したときに作動するようになっている。なお、メダル投入口75は、一度の投入枚数が1ゲームに必要な規定数以下のメダル数、例えばメダルを1枚ずつ投入できる程度のものである。

【0042】手動選択スイッチ105は、その操作毎に1ゲームずつのゲームを開始可能にするためのもので、この手動選択スイッチ105を操作したときに、預託対面である預託メダル数から1ゲーム分の遊技対面である規定数の複数枚、例えば4枚分のメダルを減算する処理を行い、1ゲーム分のゲームが開始可能な状態になるようになっている。

【0043】自動選択スイッチ106は、所定の休止期間において繰り返し連続的にゲームを開始可能にするためのもので、この自動選択スイッチ106を操作したときに、1ゲーム分の遊技対面である規定数以上のメダルの預託分があれば、手動選択スイッチ105を操作しない限り、各ゲームの開始前にその預託メダルから規定数のメダルを減算する処理を行い、その後ゲームが開始可能な状態になるようになっている。

【0044】返却スイッチ107は、預託メダルの返却を要求するためのもので、この返却スイッチ107を操作したときに、払い出し手段14が作動して預託分のメダルをメダルホッパー6から払い出すようになっている。

【0045】手動選択スイッチ105、自動選択スイッチ106、返却スイッチ107には、押しボタン式、その他のものが使用されている。また手動選択スイッチ105、自動選択スイッチ106には、その操作部側にランプ等の選択表示手段（図示省略）が設けられ、その選択表示手段で選択状況を表示するようになっている。なお、選択表示手段は、手動選択スイッチ105、自動選択スイッチ106の近傍に設けても良い。

【0046】下パネル85は、前枠2の下部側に固定されている。下パネル85には、その下部側の左右方向の略中央にメダル受け皿109とメダル案内樋77とが前後に設けられ、またメダル受け皿109の左右方向の一方側で且つヒンジ4、86に近い側に灰皿110が、反対側に手載せ台111が夫々設けられている。メダル受け皿109、灰皿110及び手載せ台111は、下パネル85から前方に突出しており、その前縁は一面になっている。なお、下パネル85に、発射ハンドル57を支持する支持筒62を前後方向に貫通させる通孔61が形成されている。

【0047】メダル受け皿109は、払い出し手段14から払い出されたメダル、及び返却シャウト76を経て返却された不良メダル等を貯留するためのものである。

メダル案内樋77は、払い出し手段14から払い出されたメダル、返却シャウト76を経て返却された不良メダルをメダル受け皿109へと案内するためのもので、下パネル85から後方に突出するようにメダル受け皿109に一体又は別体に設けられている。

【0048】手載せ台111の上側には発射ハンドル57があり、これら手載せ台111及び発射ハンドル57は、ヒンジ4、86、メダル投入口75に対して左右方向の反対側の端部若しくはその近傍に配置されている。

手載せ台111は、発射ハンドル57を操作するときに手の一部を載せておくためのもので、この手載せ台111と発射ハンドル57との間隔は、手載せ台111上に手の一部を載せた状態で両手載せ台111を操作できる、載せない状態でも操作できる程度に設定されている。

【0049】また発射ハンドル57の上側には、中間パネル84の張り出し部94に、上側へと円弧状に凹入する凹部112が形成され、発射ハンドル57と張り出し部94との間に、発射ハンドル57を把持したときに、

手が中間パネル84の張り出し部94に接触しない程度の間隔が確保されている。

【0050】図10はレンジボール機の制御系のブロック図である。この制御系は、図10に示すように基板の単機能化を図るべく複数種類の制御機能別に分けられ、その各制御機能別に電源基板17、払い出し制御基板22、主制御基板47、ランプ表示制御基板49、音声制御基板51、発射制御基板59、預託制御基板103に分けて実装されている。

【0051】主制御基板47は、主として遊技盤9側の遊技動作の制御を行うためのもので、この主制御基板47には主制御手段120が装着されている。主制御手段120は、入賞処理手段121、乱数発生手段122、遊技状態判定手段123、誘導増加装置124、精算処理手段125、ゲーム選択制御手段126、返却制御手段127、制御コマンド送信手段128等を備え、CPU、ROM、RAM等の電子部品により構成されている。

【0052】入賞処理手段121は、入賞口手段27等への遊技球の入賞に関連する入賞処理を行うためのもので、入賞口手段27の入賞口38等に遊技球が入賞した場合に、その入賞の確定後に各入賞口38に対応する入賞表示手段97の入賞表示部100に入賞表示を行わせる機能と、入賞の確定後に入賞役の正否を判定する機能とを有する。乱数発生手段122は、遊技状態決定用乱数、その他の所定の乱数を繰り返し発生するようになっている。

【0053】遊技状態判定手段123は、乱数発生手段122からの抽選乱数値に基づいて特別遊技か否かの遊技状態を判定するためのもので、作動手段30が遊技球を検出することを条件に乱数発生手段122の遊技状態

決定乱数の発生乱数値を抽選して、その抽選乱数値が特別遊技判定乱数値のときに特別遊技と判定し、また特別遊技判定乱数値以外のときに非特別遊技と判定するようになっている。

【0054】誘導増加装置 124 は遊技者に有利な特別遊技状態を発生させる特別遊技状態発生手段 129 を構成するためのもの、遊技状態判定手段 123 の判定結果が特別遊技の場合に、誘導図柄表示手段 28 の変動後の誘導図柄 28a が「7・7・7」等の特別図柄で停止した後に、所定ゲーム数（複数ゲーム）、例えば 14 ゲームに亘って特別遊技状態を発生させて作動手段 31 を有効にして、得点増加手段 24 に遊技球が入ること

を条件に、得点を増加（例えば 2 倍）させるようになっている。

【0055】精算処理手段 125 は、各ゲーム毎に得点等の遊技価値を付与する等の精算処理を行うためのもので、入賞処理手段 121 が入賞役の成立を判定した場合に得点を付与し、また特別遊技状態が発生した場合に得点増加手段 24 に遊技球が入れば、それまでの得点を 2 倍に増加させるようになっている。

【0056】ゲーム選択制御手段 126 は、手動選択スイッチ 105、自動選択スイッチ 106 の操作に基づいて単独ゲームと連続ゲームを選択するためのもの、手動選択スイッチ 105 を操作した場合にその操作毎に 1 ゲームを行う単独ゲームを、自動選択スイッチ 106 を操作した場合に所定の休止時間をおいて連続的にゲームを行う連続ゲームを夫々選択するようになっている。返却制御手段 127 は、返却スイッチ 114 の操作があった場合に預託制御基板 103 からの預託メダル数を読み込んで、その預託メダルを払い出し手段 14 により払い出させるためのものである。

【0057】制御コマンド送信手段 128 は、各制御基板 22、34、49、51、59、103 に制御コマンドを一方通信により送信するためのもの、遊技状態判定手段 123 の判定結果に基づいて図柄制御基板 34

側へ図柄変動の制御コマンドを送信する機能、精算処理手段 125 の得点に基づいて払い出し制御基板 22 にメダル払い出しの制御コマンドを送信する機能、返却制御手段 127 からの預託メダルの返却の制御コマンドを送信する機能、特別遊技状態の発生等の遊技状態に基づいて音声制御基板 51 側へ音声発生の制御コマンドを送信する機能、特別遊技状態の発生等の遊技状態に基づいてランプ表示制御基板 49 側へランプ表示の制御コマンドを送信する機能、ゲーム選択制御手段 126 の選択結果に基づいて発射制御基板 59 側へ発射球発射の制御コマンドを送信する機能、及びゲーム選択制御手段 126 の選択結果に基づいて預託制御基板 103 に預託制御の制御コマンドを送信する機能を有する。

【0058】預託制御基板 103 は、預託されたメダルに関する制御を行うためのもので、投入メダル数を記憶

中の預託メダル数に順次加算して預託メダル数を更新する機能と、ゲーム選択制御手段 126 の単独ゲーム、連続ゲームの選択結果に基づいてゲーム毎にその開始前に預託メダル数から 1 ゲームに必要な規定数分のメダルを遊技対価として減算処理する機能と、預託メダル数を更新する都度、その時点の預託メダル数をメダル数表示手段 98 に表示させる機能を備え、CPU、ROM、RAM 等により構成されている。なお、預託制御基板 103 は、手動選択スイッチ 105 を操作した場合にはその操作毎に、また自動選択スイッチ 106 を操作した場合には各ゲーム毎に夫々規定数のメダルを減算するようになっている。

【0059】電源基板 17 には、各部に給電する主電源手段、ゲーム中に停電した場合に主制御手段 120 の遊技状態の記憶を保持させるバックアップ電源手段等が設けられている。払い出し制御基板 22 は、得点に基づいて景品用のメダルの払い出し制御を行うためのもので、CPU、ROM、RAM 等を備え、主制御基板 47 側から払い出しのコマンドがあった場合には払い出し手段 14 を作動させて、景品用又は返却用のメダルを払い出させるようになっている。

【0060】ランプ表示制御基板 49 は、遊技状態に基づいて遊技盤 9 側及び又は前面パネル 5 側の 1 個又は複数個の表示ランプ 130 の表示制御を行うためのもので、CPU、ROM、RAM 等を備え、主制御基板 47 側からの制御コマンドがあった場合に、表示ランプ 130 を発光又は点滅発光させるようになっている。音声制御基板 51 は、遊技状態に基づいて音声発生手段 92 が発生する効果音等の音声の制御を行うためのもので、CPU、ROM、RAM 等を備え、主制御基板 47 側からの制御コマンドがあった場合に、音声発生手段 92 から所定の音声が発生させるようになっている。

【0061】発射制御基板 59 は、各ゲームの終了毎に所定の休止時間をおいて発射手段 10 の発射制御を行うためのもので、手動選択スイッチ 105 を操作した場合には、預託制御基板 103 が規定数のメダルの減算処理を行ったこと及び遊技者が発射手段 10 の発射ハンドル 57 を操作することを条件に、ゲーム選択制御手段 126 の単独ゲーム、連続ゲームに基づいて発射手段 10 を作動させ、発射手段 10 が所定数（16 個）の遊技球を遊技領域 26 に打ち込むまでその作動を継続させるようになっている。従って、制御系は、メダル投入口 75 に規定数以上のメダルを投入すれば、ゲームを開始可能な状態になる。

【0062】図柄制御基板 34 は、遊技状態判定手段 123 の判定結果に応じて誘導図柄表示手段 28 の誘導図柄 28a の変動制御を行うためのもので、作動手段 30 の遊技球の検出により誘導図柄 28a が所定時間の変動を開始し、遊技状態判定手段 123 の判定結果が特別遊技の場合に「7・7・7」等の特別図柄、非特別遊技の

場合に非特別態様で夫々停止すべく、所定時間変動後の誘導図柄 28a を判定結果に基づいて特別態様又は非特別態様で停止させるようになっている。

【0063】次に、上記構成のアレンジボール機における動作を説明する。ゲームの開始に際しては、メダル投入口 75 に 1 ゲームに必要な規定数以上の複数枚のメダルを投入する。すると、各メダルはメダル投入口 75 内で整列してメダル選別手段 11 へと入り、そのメダル選別手段 11 で正否の判別を受け、不良メダルは返却シュート 76 からメダル受け皿 109 へと戻され、正規のメダルのみがメダルシュート 12 を経てメダルホッパー 6 へと落下する。

【0064】このときメダル検出スイッチ 78 が正規のメダルを検出し、預託制御基板 103 側でそのメダル数を計数して、記憶中の預託メダル数に加算して更新する。これによって遊技対価として規定数のメダルの減算処理が可能になるため、ゲームを開始可能になる。またメダルを投入すれば、預託制御基板 103 の制御によってメダル数表示手段 98 が預託メダル数を表示する。このため遊技者は、その表示によってその時点の預託メダル数を容易に確認できる。

【0065】次に手動選択スイッチ 105 を操作すると、ゲーム選択制御手段 126 が単独ゲームの指令を預託制御基板 103、発射制御基板 59、その他の各部に送り、預託制御基板 103 が預託メダル数から規定数分を減算し更新する処理を行い、これによって発射手段 10 が実際に遊技球を発射可能になる。なお、預託制御基板 103 が減算処理を行えば、メダル数表示手段 98 はその減算後の預託メダル数を表示する。

【0066】その後、遊技者が発射ハンドル 57 を把持して操作すると、発射制御基板 59 がゲーム選択制御手段 126 からの単独ゲームの指令に基づいて発射手段 10 を作動させ、球送り手段 69 が待機通路 68 内の遊技球を 1 個ずつ発射レール 53 上に供給し、その発射レール 53 上の遊技球を打撃皿 54 で打撃して順次ガイドレール 25 を経て遊技盤 9 の遊技領域 26 へと打ち込んで行き、これによって通常のゲームが進行する。

【0067】遊技領域 26 に打ち込まれた遊技球は、入賞口手段 27 の何れかの入賞口 38 に入賞するか、又は特定入賞手段 29 等に入賞して、遊技盤 9 の裏側へと案内された後、球集合ケース 46 を経て待機通路 68 へと順次戻されて行く。例えば、遊技球が入賞口手段 27 の何れかの入賞口 38 に入賞すると、その遊技球は入賞口 38 から遊技盤 9 の裏側へと案内され、球集合ケース 46 を経て待機通路 68 へと戻される。また、遊技球が入賞口 38 から遊技盤 9 の裏側へと通過するときに、入賞検出スイッチ 39 がその遊技球を検出し、入賞処理手段 121 の入賞処理によって、入賞表示手段 97 の対応する入賞表示部 100 が入賞を表示する。

【0068】入賞口手段 27 の入賞口 38 の内、その隣

り合う 4 個の入賞口 38 に遊技球が入賞して入賞役が成立すると、入賞処理手段 121 が入賞役の成立を判定し、その入賞役の成立の難易度に応じた精算処理手段 125 が得点を付与する精算処理を行い、得点表示手段 99 がその得点を表示する。このため遊技者は、そのゲームで獲得した得点を得点表示手段 99 の表示によって容易に確認できる。

【0069】一方、得点が付与されると、払い出し手段 14 が払い出し制御基板 22 の制御により作動して、その得点に応じてメダルホッパー 6 内のメダルをメダル払い出し口 16 からメダル受け皿 109 へと払い出す。これによって遊技者は、所定の利益を享受できる。なお、1 ゲーム当たりの得点は最高 10 点であり、また 1 点当たりのメダルの払い出し枚数は 4 枚である。

【0070】作動手段 30 が遊技球の入賞を検出すると、遊技状態判定手段 123 が乱数発生手段 122 の発生乱数値を抽選して、その抽選乱数値から特別遊技になるか否かを判定すると共に、図柄制御基板 34 の制御により誘導図柄表示手段 28 の誘導図柄 28a が変動を開始する。誘導図柄 28a は、変動開始から所定時間経過した後、遊技状態判定手段 123 の判定結果に基づいて、その判定結果が特別遊技のときに特別態様となり、非特別遊技のときに非特別態様となるように、図柄制御基板 34 側で決定された種類の特別態様又は非特別態様で停止する。

【0071】誘導図柄 28a が特別態様で停止し確定すると、特定入賞手段 29 の開閉体 29a が開放する。そして、特定入賞手段 29 に入賞した遊技球がその内部の特別作動領域 29b を通過すると、特別遊技状態発生手段 129 を構成する誘導増加装置 124 が作動して、作動手段 31 が有効になり、この作動手段 31 に遊技球が入賞する毎に得点増加手段 24 が所定時間開放する。そして、得点増加手段 24 の開放によって遊技球が入賞すると、精算処理手段 125 がそのゲーム中に獲得した得点を 2 倍に増加させる処理を行い、その得点に応じてメダルが払い出されるので、遊技者は有利な状態でゲームを行える。

【0072】従って、判定結果が特別遊技のときには、そのゲームから 14 ゲームを終了するまで作動手段 31 の有効状態が継続する。このため 14 ゲーム間に亘って得点が 2 倍に増加することになり、一旦特別遊技状態になれば、遊技者はその後多大な利益を享受することができ。

【0073】遊技領域 26 に 16 個の遊技球を打ち込むと、発射制御基板 59 の制御により発射手段 10 が停止して 1 ゲームが終了し、次のゲームまで所定時間休止状態となる。従って、休止時間中に手動選択スイッチ 105 を操作しても、ゲーム選択制御手段 126、預託制御基板 103 等は同様に機能するが、発射手段 10 の道には作動せず、休止時間の経過後に作動して遊技球の発



射を開始する。

【0074】自動選択スイッチ106を操作したときには、預託メダル数が1ゲームに必要な規定数以上である限り、ゲーム選択制御手段12の連続ゲームの指令に基づいて預託制御基板103が各ゲーム毎に規定数のメダルの減算処理を行い、発射手段10が各ゲーム毎に遊技領域26へと所定数の遊技球を打ち込んで行く。従って、遊技者は、発射ハンドル57を操作するだけで、所定の休止時間をおきながら自動的に連続してゲームを行うことができる。

【0075】返却スイッチ114を操作したときには返却制御手段127が返却を指令し、預託制御基板103側に預託メダル数の記憶があることを条件に、払い出し制御基板22の制御により、払い出し手段14が作動してメダルホッパー6から預託メダル数分のメダルをメダル受け皿109へと払い出す。

【0076】図9は、遊技盤9を前枠2から取り外した状態を示している。遊技盤9の裏面側の裏カバー45上には、主制御基板47、ランプ表示制御基板49、音声制御基板51が装着されているため、遊技盤9を交換して機種替えを行う際には、遊技盤9と共にこれら各制御基板47、49、51も同時に交換することができ、機種変更作業を容易化できる。また、これら制御基板47、49、51は、基板取付部材としての共通の裏カバー45上に設けられているため、それぞれ異なる基板取付部材上に装着する場合と比べて部品点数を削減することができると共に、それら制御基板47、49、51を集中的に配置でき、それら制御基板47、49、51の間、或いは他の制御基板との間の配線を簡略化、集約化でき、製作コストの低減が可能となる。

【0077】更に、裏カバー45は、裏面側に装着されている各基板47、49、51を含めて前枠2の後方に突出して設けられているが、それらは前枠2を閉じた状態でメダル払い出し装置70の上方に位置するように配置されているため、外枠1の前後方向の寸法を小さくでき、遊技機本体3の薄型化が可能となった。

【0078】また、本実施形態では、メダル投入口75に規定の複数枚のメダルを投入することを条件にゲームを開始可能に構成しているため、ロットマシン用のメダルを使用する等、従来の専用メダルとは異なり価値の低い他の遊技機用のメダルを使用してゲームを行うこともできる。

【0079】また発射手段10から遊技盤9へと遊技球を案内する発射側経路68と、遊技盤9から発射手段10へと遊技球を戻す戻り側経路67とを含む閉ループ状の循環経路65を構成し、この循環経路65中に複数個の遊技球を封入した封入式を採用しているため、遊技者の遊技球の取り扱いが不要であり、メダルの処理によってゲームを行うことができる。

【0080】図11及び図12は、本発明の第2の実施

形態を例示し、遊技盤9の裏面側に、裏カバー45とは別に、複数の制御基板を装着可能な基板取付部材79を設けた例を示している。裏カバー45には、その裏面側の上部に後方に大きく張り出した張り出し部45aが形成されており、この張り出し部45a内に誘導図柄表示手段28及びその裏面側に装着された図柄基板ケース35が配置され、張り出し部45aの下口部45b上に主制御基板47を格納した主基板ケース48が着脱自在に装着されている。更に、裏カバー45の下側で球集合ケース46等の後方には、基板取付部材79が、取付ボス部80を介して遊技盤9の裏面側に着脱自在に装着されている。基板取付部材79の裏面側には、ランプ表示制御基板49を収納するランプ表示基板ケース50と、音声制御基板51を収納する音声基板ケース52とが着脱自在に装着されている。ここで、ランプ表示制御基板49と音声制御基板51が複数の電気回路基板の一例である。

【0081】このように、裏カバー45の後方への張り出しが大きい場合など、裏カバー45の裏面側に制御基板を装着する十分なスペースが確保できない場合には、裏カバー45とは別に基板取付部材79を遊技盤9の裏面側に装着し、その上に複数の制御基板を装着することも可能である。この場合も、遊技盤9を交換して機種替えを行う際には、遊技盤9と共に各制御基板34、47、49、51も同時に交換することができるため、機種変更作業を容易化できる。また、制御基板49、51は、共通の基板取付部材79上に設けられているため、それぞれ異なる基板取付部材上に装着する場合と比べて部品点数を削減することができると共に、それら制御基板49、51を集中的に配置できるため、それら制御基板47、49、51と他の制御基板との間の配線を簡略化、集約化でき、製作コストの低減が可能となる。

【0082】以上、本発明の各実施形態について詳述したが、この実施形態に限定されないものでなく、本発明の趣旨を逸脱しない範囲内で種々の変更が可能である。例えば、図柄制御基板34は、裏カバー45上或いは基板取付部材79上に設けても良い。

【0083】遊技盤9の裏面側に装着する制御基板は、実施形態に示したような組み合わせである必要はない。例えば、ランプ表示制御基板49や音声制御基板51が、機種が異なっても共通に利用することが可能な構成である場合には、これらの制御基板49、51は遊技盤9の裏面ではなく、前枠2側に装着することが望ましい。

【0084】また、各制御基板の構成についても、各実施形態に示したものに限られるものではない。例えば、預託制御基板103を省略して、その預託制御基板103に代わる預託制御手段を主制御基板47側に組み込んで良い。また、主制御基板47とは別に、入賞表示手段9の入賞表示の制御を行う入賞表示制御基板を設け

てもよい。その他、各制御機能別に制御基板22、34、47、49、51、59、103を分ける場合、その制御基板22、34、47、49、51、59、103の数は必要に応じて適宜決定すればよい。実施形態に例示の制御機能を更に細分化して、その大々に対応して制御基板22、34、47、49、51、59、103を設けることも可能であるし、また一部の制御基板22、34、47、49、51、59、103に複数種類の制御機能を持たせることも可能である。

【0085】裏カバー45や基板取付部材79上に装着した複数の制御基板は、1つの基板ケース内に収納してもよい。また、基板ケースそのものを基板取付部材としてもよい。

【0086】実施形態では、メダル投入口75から投入されたメダルを預託制御基板103で1枚ずつ計数するようにしているが、規定の複数枚を単位として検出し、その検出を条件にゲームを開始可能にしても良い。

【0087】複数枚のメダルの投入でゲームを開始可能にするとき、実施形態では手動・自動の別を選択するようにしているが、ゲームに必要な預託メダルがある限り、発射ハンドル57を操作しておれば、所定の休止時間をおいて自動的にゲームを繰り返すようにしても良い。この場合にも、発射ハンドル57のタッチ片から手を放したときに、そのゲームの終了又は所定時間の経過を待ってゲームの継続を停止するように構成すれば、別段問題はない。

【0088】手動、自動を選択する選択スイッチを設ける場合にも、実施形態のように手動選択スイッチ105と自動選択スイッチ108とを別々に設ける必要はなく、1個の選択スイッチで手動、自動を選択するようにしても良い。この場合、選択スイッチの近傍等の適当箇所に手動選択表示手段、自動選択表示手段を設けることにより、遊技者は容易に手動、自動を識別が可能である。なお、選択表示手段を1個として、その表示の色、点滅の有無等により自動、手動を識別可能に表示するようにしても良い。

【0089】また実施形態では、手動選択スイッチ105を操作したときには、その操作によって預託制御基板103がそのゲームの開始前に規定数のメダルの減算処理を行い、自動選択スイッチ108を操作したときには、その操作によって預託制御基板103がその各ゲームの開始前に規定数のメダルの減算処理を行うようにしているが、何れの場合にもメダルの投入後に遊技者が発射ハンドル57を操作することによって、預託制御基板103がゲームの開始前に規定数のメダルの減算処理を行うようにしても良い。

【0090】預託メダルがない場合には、規定数のメダルを投入した後に手動選択スイッチ105を操作しなくても、預託制御基板103がそのメダルを自動的に処理をしてゲームを開始可能にするように構成（プログラム

等により）しても良い。

【0091】実施形態では、外枠1とその前側の前枠2とから遊技機本体3を構成し、その前枠2の前側側に前面パネル5を設けているが、外枠1及び前枠2を一体にして遊技機本体3を構成し、この遊技機本体3の前側面に前面パネル5を閉閉自在に設けても良い。遊技機本体3の前側に前面パネル5を設けるに当たっても、その前面パネル5を複数個に分割する必要は必ずしもない。ガラス扉82を含む前面パネル5の全体を一体に構成し、前枠2と前面パネル5は一体でも良い。その前面パネル5を遊技機本体3に対して開閉自在に設けても良い。1ゲームに必要なメダルの枚数は4枚である必要はなく、1枚以上であれば良い。また複数種類のメダルを使用可能にしても良い。

【0092】また実施形態では、遊技者が獲得したメダルを各ゲーム毎にメダル受け皿109に払い出すようにしたが、その都度払い出すのではなく、獲得メダル数を各ゲーム毎に預託メダル数に順次上限まで加算して更新すると共にメダル数表示手段98に表示し、例えば返却スイッチ114を操作したときに獲得メダル分を含む預託メダルをまとめて払い出すようにしても良い。

【0093】実施形態では入賞役が成立した場合に得点を付与するようにしているが、得点の付与に限らず、所定の遊技価値を付与するものであれば良い。

【0094】更に実施形態では、アレンジボール機について例示しているが、アレンジボール機他、雀球遊技機等の各種の組み合わせ遊技機でも同様に実施できることはいうまでもない。

【0095】

【発明の効果】本発明では、外枠1と、該外枠1に開閉可能に取り付けられる前枠2と、該前枠2に着脱可能に装着される組み合わせ遊技用の遊技盤2と、外枠1内に設けられ、入賞に関連してメダルを払い出すメダル出し装置70とを備え、遊技盤9の遊技領域26にゲーム毎に所定数の遊技球を打ち込みながら、その終了毎に所定の休止時間をおいてゲームを繰り返す可能にした組み合わせ遊技機において、遊技盤9の裏側に、メダル出し装置70を離れた位置に複数の電気回路基板を装着する基板取付部材45、79を備えているため、遊技盤9ごと交換するだけで基板の交換を含めた機構変更を効率的に行えとと共に、部品点数の削減や各基板間の配線の簡略化が可能となり、製作コストを低減できる。また、遊技機本体3の薄型化も可能となる。

【図面の簡単な説明】

【図1】本発明の第1の実施形態を示すアレンジボール機の正面図である。

【図2】本発明の第1の実施形態を示すアレンジボール機の側面図である。

【図3】本発明の第1の実施形態を示す前枠の背面図である。

【図4】本発明の第1の実施形態を示す外枠の正面図である。

【図5】本発明の第1の実施形態を示すアレンジボール機の縦断面図である。

【図6】本発明の第1の実施形態を示すアレンジボール機の縦断面図である。

【図7】本発明の第1の実施形態を示すアレンジボール機の横断面図である。

【図8】本発明の第1の実施形態を示す戻り側経路部分の縦断面図である。

【図9】本発明の第1の実施形態を示す遊技盤と前枠の斜視図である。

【図10】本発明の第1の実施形態を示す制御系のブロック図である。

【図11】本発明の第2の実施形態を示すアレンジボール機の側面図である。

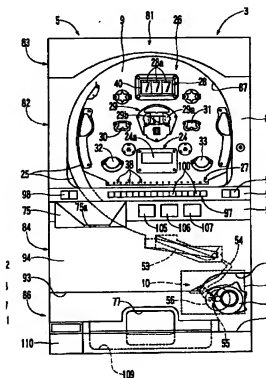
【図12】本発明の第2の実施形態を示すアレンジボール機の背面図である。

【符号の説明】

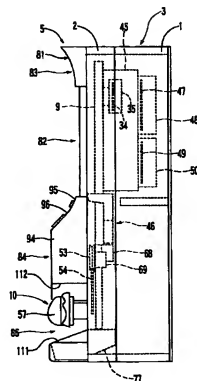
- \* 1 外枠
- 2 前枠
- 9 遊技盤
- 26 遊技領域
- 28 誘導図柄表示手段
- 28 a 誘導図柄
- 34 図柄制御手段
- 45 裏カバー
- 47 主制御基板
- 49 ランプ表示制御基板
- 51 音声制御基板
- 65 循環経路
- 66 発射側経路
- 67 戻り側経路
- 70 メダル払い出し装置
- 79 基板取付部材
- 92 音声発生手段
- 130 表示ランプ

\*

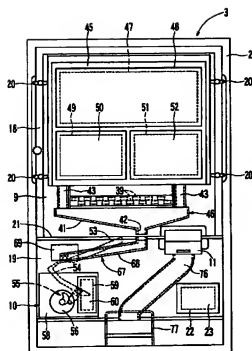
【図1】



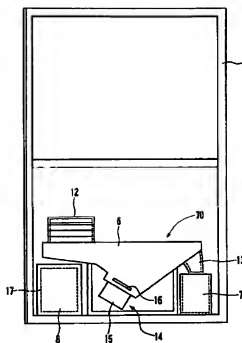
【図2】



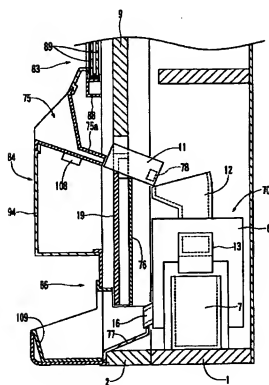
【図 3】



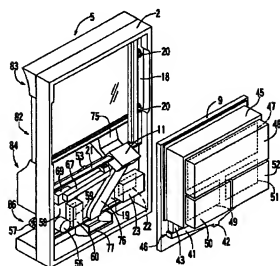
【図 4】



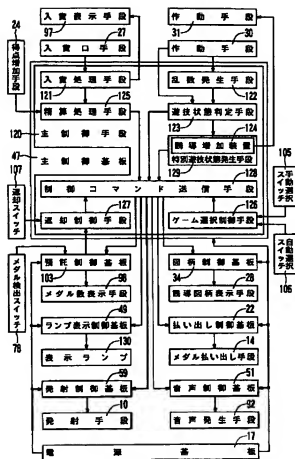
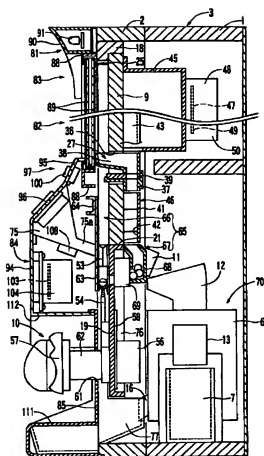
【図 6】



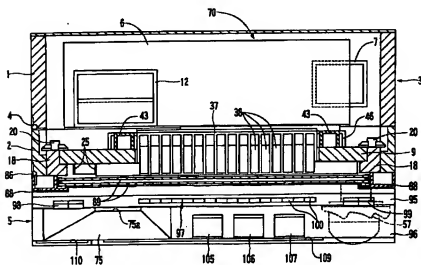
【図 9】



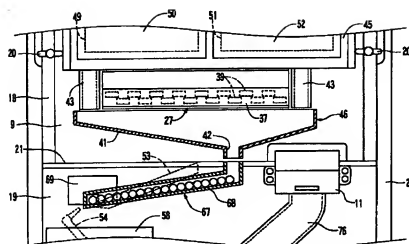
【圖 10】



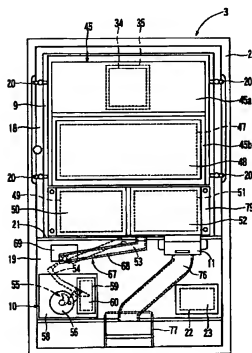
【圖7】



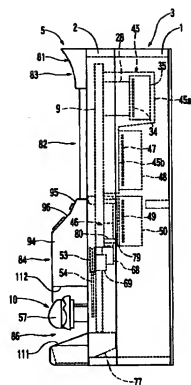
〔図 8〕



〔図 12〕



〔図 11〕



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**Bibliography**

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(51) [The 7th edition of International Patent Classification]

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323

326

338

[F]

A63F 7/02 303 A

323 B

326 C

326 Z

338

[Request for Examination] Tamotsu

[The number of claims] 5

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[Identification Number] 100100273

[Patent Attorney]

[Name] Yato Takashi

[Theme code (reference)]

2C088

[F term (reference)]

2C088 AA35 AA36 AA42 AA57 AA66 BA41 BA49 BC07 BC22 BC58 BC73 EA10 EA15  
EA23

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Summary

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(57) [Abstract]

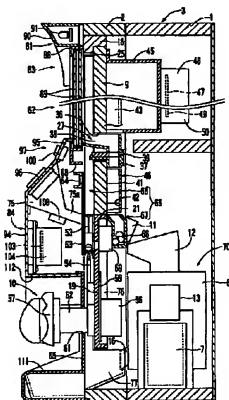
[Technical problem] The combination game machine in which the increase in  
efficiency of substrate exchange and reduction of manufacture cost are possible is  
offered thin-shape-izing the main part of a game machine.

[Means for Solution] An outer frame 1, the front frame 2 attached in this outer  
frame 1 possible [ opening and closing ], and the game board 9 for combination  
games with which this front frame 2 is equipped removable, It has the member 45  
with basis sheet cutting which equips with two or more electrical circuit substrates  
the position which set the predetermined quiescent time for the end of every, and  
made the game repeatable, and which combined and avoided medal expenditure  
equipment 70 to the background of the game board 9 with the game machine, being  
prepared in an outer frame 1, having medal expenditure equipment 70 which pays out  
a medal in relation to winning a prize, and driving the game sphere of a  
predetermined number into the game field of the game board 9 for every game.



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**CLAIMS**

[Claim(s)]

[Claim 1] outer frame (1) This outer frame (1) Front frame (2) attached possible [ opening and closing ] this front frame (2) The game board for combination games (9) with which it is equipped removable The aforementioned outer frame (1) It is

prepared inside, has medal expenditure equipment (70) which pays out a medal in relation to winning a prize, and is the aforementioned game board (9). Driving the game sphere of a predetermined number into a game field (26) for every game In the combination game machine which set the predetermined quiescent time for the end of every, and made the game repeatable The aforementioned game board (9) Combination game machine characterized by equipping a background with the substrate attachment member (45) and (79) which equip with two or more electrical circuit substrates the position which avoided the aforementioned medal expenditure equipment (70).

[Claim 2] The aforementioned medal expenditure equipment (70) is the aforementioned outer frame (1). It is fixed inside and the aforementioned substrate attachment member (45) and (79) are the aforementioned game board (9). Combination game machine according to claim 1 characterized by being attached in a rear face.

[Claim 3] The aforementioned game board (9) The main-control substrate which controls near game operation (47), It is based on a game state and is a display lamp (130). The lamp display control board which performs a display control (49), The voice-control substrate which controls voice, such as a sound effect which a voice generating means (92) generates based on a game state, (51), Guidance pattern of a guidance pattern display means (28) (28a) Combination game machine according to claim 1 or 2 characterized by attaching in the aforementioned substrate attachment member (45) and (79) at least two with the pattern control boards (34) which perform change control.

[Claim 4] Frame before the above (2) Combination game machine given in any of the claims 1-3 characterized by constituting so that the aforementioned electrical circuit substrate (47) attached in the aforementioned substrate attachment member (45) and (79), (49), (51), and (34) may be located in the state where it closed, more nearly up than the aforementioned medal expenditure equipment (70) they are.

[Claim 5] A combination game machine given in any of the claims 1-4 characterized by having constituted the circulation path (65) of the shape of a closed loop characterized by providing the following, and enclosing two or more game spheres into this circulation path (65) they are A discharge means (10) to the game board (9) Discharge side path of guiding a game sphere (66) The aforementioned game board (9) Return-end path which returns a game sphere to the shell aforementioned discharge means (10) side (67)

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to combination game machines, such as an arrangement ball machine and a mahjong ball game machine.

[0002]

[Description of the Prior Art] They have arranged each game part, such as a guidance pattern display means, an operation means, a specific winning-a-prize means, and an increase means in value, to the up side, and have equipped it with the medal expenditure equipment which pays out a medal at the main part side of a game machine while the combination game machine, for example, an arrangement ball machine, using a medal as a game medium arranges a winning-a-prize mouth means have two or more winning-a-prize mouths, in the lower part of the game field of the game board with which the

[0003] And if a predetermined number, for example, 16 game spheres, is driven in to a game field by the discharge means, the game sphere wins a prize of which winning-a-prize mouth of a winning-a-prize mouth means on the occasion of a game and the predetermined role of winning a prize is materialized Game value, such as a predetermined score, is given according to the difficulty of formation of the role of winning a prize. It pays out according to the acquisition game value, and game media, such as a game sphere and a medal, are paid out by the means. in "7, 7, 7", etc., the halt pattern after change of a guidance pattern display means specially in the case of a mode Game value, such as a score, is made to increase, when a game state occurs specially and a game sphere wins a prize of the increase means in value.

[0004] In such an arrangement ball machine, the electronics control method which controls by the control board equipped with the electronic parts of CPU, ROM, and RAM and others was adopted, and the rear-face side of the front frame pivoted in the front-face side of the main part of a game machine free [ opening and closing ] etc. was equipped with the control board through the individual substrate attachment member.

[0005]

[Problem(s) to be Solved by the Invention] Thus, in the conventional arrangement

ball machine which has equipped with each control board through a respectively individual substrate attachment member, since it was necessary to detach and attach each control board individually from the main part of a game machine in case two or more related control boards are exchanged simultaneously, when making a model change, for example, there was a problem that working efficiency was bad. Moreover, since part mark increased and each control board was distributed by preparing a substrate attachment member for every control board, that wiring between each control board becomes complicated etc. had become the cause which manufacture cost raises.

[0006] Furthermore, in the above medal-type arrangement ball machine, since it had large-sized medal expenditure equipment in the main part of a game machine, it was a technical problem how this is made small by being in the inclination of the main part of a game machine for especially the size of the depth direction to become large.

[0007] this invention aims at offering the combination game machine in which the increase in efficiency of substrate exchange and reduction of manufacture cost are possible, thin-shape-izing the main part of a game machine in view of such a trouble.

[0008]

[Means for Solving the Problem] The front frame 2 attached by this invention possible [ the opening and closing to an outer frame 1 and this outer frame 1 ], it is prepared the game board 9 for combination games with which this front frame 2 is equipped removable, and in the aforementioned outer frame 1. Having medal expenditure equipment 70 which pays out a medal in relation to winning a prize, and driving the game sphere of a predetermined number into the game field 26 of the aforementioned game board 9 for every game It has the members 45 and 79 with basis sheet cutting which equip with two or more electrical circuit substrates the position which set the predetermined quiescent time for the end of every, and made the game repeatable, and which combined and avoided the aforementioned medal expenditure equipment 70 to the background of the aforementioned game board 9 in the game machine.

[0009]

[Embodiments of the Invention] Hereafter, the operation form of this invention is explained in full detail based on a drawing. Drawing 1 - drawing 10 illustrate 1 operation form which adopted this invention as the arrangement ball machine of a medal injection formula. As this arrangement ball machine is shown in drawing 1 - drawing 4 , it has the main part 3 of a game machine equipped with the outer frame 1 and the front frame 2 arranged at the anterior of this outer frame 1, and the outer frame 1 is equipped with the front frame 2 free [ opening and closing and attachment and detachment ] through the hinge 4 (refer to drawing 7 ) lengthwise [ by the side of a right-and-left end ].

[0010] While the front-face side is equipped with a front panel 5, various kinds of internal mechanisms which contain the game board 9 in the background of a front

panel 5 inside the main part 3 of a game machine -- medal expenditure equipment 70, an auxiliary tank 7, and power supply unit 8 grade are prepared in an outer frame 1 side, and the game board 9, the discharge means 10, and the medal sorting means 11 are formed in the front frame 2 side -- are prepared in the main part 3 of a game machine.

[0011] Medal expenditure equipment 70 is equipped with the overflow mouth 13 to which the overflow of the surplus medal is carried out to an auxiliary tank 7, and the expenditure means 14 which pays out the medal for premiums when the medal hopper 6 which stores the medal as a game medium, the medal chute 12 which receives an injection medal, and an internal medal are in a full state. The expenditure means 14 is for paying out the medal in the medal hopper 6 as the object for premiums, or an object for return, it is prepared in the lower part side of the medal hopper 6, drives the body of revolution in the medal hopper 6 (illustration abbreviation) by the driving means 15, such as a motor, and pays a medal out of the medal expenditure mouth 16 to an anterior. In addition, an auxiliary tank 7 can be taken freely in and out. Moreover, the power supply substrate 17 is formed in the power supply unit 8.

[0012] The game board 9 fits in detachably from a background between the game board wearing frame 18 inside the front frame 2, and a housing 19, and is being fixed free [ attachment and detachment ] by two or more conclusion meanses 20 prepared in the background of the game board wearing frame 18. It can especially detach [ therefore, ] the game board 9 from a background and attach freely in the front frame 2 the front part side of the main part 3 of a game machine. The game board wearing frame 18 is a gate type-like, and the top and right-and-left both sides are being fixed to the inside side of the front frame 2 with the housing 19 up side. A housing 19 equips a upper-limb side with the game board receptacle section 21 which receives the game board 9 from the bottom at one, and is constructed over the interior of the front frame 2 by the longitudinal direction. The background of a housing 19 is equipped with the expenditure substrate case 23 which contains the expenditure control board 22 free [ attachment and detachment ].

[0013] As shown in drawing 1, while the front face of the game board 9 is annularly equipped with a guide rail 25, the winning-a-prize mouth means 27 is arranged at the lower part of the game field 26 inside this guide rail 25, and each game part of the guidance pattern display means 28, the specific winning-a-prize means 29, the increase means 24 in a score, the operation meanses 30 and 31, the common winning-a-prize means 32, and 33 grades is arranged at the winning-a-prize mouth means 27 bottom. In addition, many game nails (illustration abbreviation) are formed between the winning-a-prize mouth means 27 and each game part.

[0014] The winning-a-prize case 37 with which the opening 36 of the game board 9 was equipped free [ attachment and detachment ] from the background as the winning-a-prize mouth means 27 was shown in drawing 5 and drawing 7, The plurality 38 which guides the game sphere which was formed in this winning-a-prize

case 37 in the shape of a horizontal single tier etc., and won a prize from the anterior to the background of the game board 9, for example, 16 winning-a-prize mouths, The game sphere which detects the game sphere which won a prize of each winning-a-prize mouth 38 and which is equipped with 16 winning-a-prize pilot switches 39 two or more, and falls along with the game board 9 wins a prize of which winning-a-prize mouth 38, and the winning-a-prize pilot switch 39 detects the game sphere.

[0015] The guidance pattern display means 28 is made to serve a double purpose by the liquid crystal display means 40 for reporting the game information at the power failure time when a change display of three guidance patterns 28a is possible and the electric current is cut off one or more, the return preliminary announcement of the game after power failure restoration, the game conditions at the time of a return, and various kinds of game information on other to a game person.

[0016] Each guidance pattern 28a predetermined-time-change-stops in a specific mode or the other non-specifying modes, such as "7, 7, and 7", on condition that the operation means 30 detects a game sphere. In addition, the pattern is suitably used for guidance pattern 28a for the number pattern etc. The background of the guidance pattern display means 28 is equipped with the pattern substrate case 35 which contained the pattern control board 34 free [ attachment and detachment ].

[0017] After guidance pattern 28a after change of the guidance pattern display means 28 is specially stopped and decided in a mode, while the specific winning-a-prize means 29 is equipped with opening-and-closing object 29a which carries out predetermined-time opening, the interior is divided into a field [ two or more (for example, three pieces) ], and the part (for example, center) has become operating-space 29b specially. Specially, operating-space 29b is for terminating the special game state based on predetermined conditions, when [ below-mentioned ] a game state is generated specially and a game sphere passes again, when a game sphere passes.

[0018] The increase means 24 in a score is for making a score increase, when a game sphere wins a prize, and a score is made to increase, when a game state occurs specially, it has predetermined-time (for example, for about 3.4 seconds) opening opening-and-closing object 24a on condition of the operation means 31 detecting a game sphere and a game sphere wins a prize of this increase means 24 in a score (for example, double precision).

[0019] In addition, when it is constituted so that the specific winning-a-prize means 29, the increase means 24 in a score, and the game sphere with which the winning-a-prize means 32 and 33 usually won a prize by the anterior of the game board 9 may be guided to the background of the game board 9, and a game sphere wins a prize of these, it is dealt with on a par with winning a prize of the game sphere to one piece or two or more winning-a-prize mouths 38 corresponding to it.

[0020] The specific winning-a-prize means 29 for example, to the 11th of the winning-a-prize mouth 38, and the 14th When a game sphere wins a prize of it

corresponding to the winning-a-prize mouth 38 with which the game sphere of the winning-a-prize mouth means 27, such as corresponding to the 11-13th and the 5th, respectively, cannot win a prize easily, or the winning-a-prize mouth 38 with which the role of winning a prize cannot be materialized easily, the increase means 24 in a score. The winning-a-prize display (after-mentioned) corresponding to the winning-a-prize mouth 38 displays winning a prize similarly that the game sphere won a prize of the corresponding winning-a-prize mouth 38.

[0021] As shown in drawing 2 and drawing 3, in the rear face of the game board 9 The winning-a-prize mouth means 27, the guidance pattern display means 28, the specific winning-a-prize means 29, the increase means 24 in a score, the operation means 30, each game part of 31 grades, And the pattern substrate case 35 is equipped with the wrap rear cover 45 and the sphere set case 46 arranged at this rear-cover 45 bottom free [ attachment and detachment ] from a background. The rear face of the rear cover 45 is equipped with the main substrate case 48 which contains the main-control substrate 47, the lamp display substrate case 50 which contains the lamp display control board 49, and the voice substrate case 52 which contains the voice-control substrate 51 free [ attachment and detachment ]. That is, a rear cover 45 is an example of a member with basis sheet cutting which can equip with two or more electrical circuit substrates, and the main-control substrate 47, the lamp display control board 49, and the voice-control substrate 51 are examples of two or more electrical circuit substrates.

[0022] As shown in drawing 5, although the rear cover 45 is projected and formed behind the front frame 2 including each substrates 47, 49, and 51 with which the rear-face side is equipped, they are arranged so that it may be located above medal expenditure equipment 70, where the front frame 2 is closed. Thereby, the size of the cross direction of an outer frame 1 could be made small, and thin shape-ization of the main part 3 of a game machine was attained.

[0023] The sphere set case 46 is for gathering the game sphere guided to the background of the game board 9 through the game parts of the winning-a-prize mouth means 27, the specific winning-a-prize means 29, and increase means in score 24 grade. As shown in drawing 5, drawing 7, and drawing 8, the bottom has the sphere set section 41 which carries out opening, and the exhaust port 42 which discharges below the game sphere which gathered in this sphere set section 41, and the background of the game board 9 is equipped with it with the winning-a-prize case 37 down side. In addition, the game sphere which won a prize of the winning-a-prize mouth 38 is discharged from an exhaust port 42 through the sphere set case 46, without staying inside winning-a-prize mouth means 27 grade, after being detected by the winning-a-prize pilot switch 39.

[0024] Rather than the center of abbreviation of the longitudinal direction of the sphere set case 46, it biases to the sphere informer stage 69 and an opposite side, and the exhaust port 42 of the sphere set case 46 is arranged at them so that the length of the standby path 68 can be secured easily. Moreover, the right-and-left

both sides of the winning-a-prize mouth means 27 are equipped with the sphere guidance path 43 which shows the game sphere from the specific winning-a-prize means 29 and increase means in score 24 grade to the sphere set section 41 of the sphere set case 46 so that it may project in the sphere set case 46 side through the inside of a rear cover 45.

[0025] The discharge means 10 is for firing a game sphere to the game field 26 of the game board 9 through a guide rail 25. The blow hammer 54 which hits the game sphere on the discharge rail 53 and the discharge rail 53 toward a guide-rail 25 side as shown in drawing 1 - drawing 3 , The discharge spring which energizes the blow hammer 54 in the blow direction of a game sphere (illustration ellipsis), The discharge driving means 56 which make the blow hammer 54 rock intermittently in the anti-blow direction, resisting a discharge spring through a cam mechanism 55, such as a motor, The discharge driving means 56 are started by a game person's grasping, and it has the discharge handle 57 which can adjust the spring pressure of a discharge spring by the rotation operation, and the housing 19 is equipped free [ attachment and detachment ] through the adapter plate 58 grade. Moreover, the rear-face side of an adapter plate 58 is equipped with the discharge substrate case 60 where the discharge control board 59 which performs discharge control of the discharge means 10 was stored, free [ attachment and detachment ], for example. [0026] The anterior of a housing 19 etc. is equipped with the discharge rail 53 corresponding to the guide rail 25 by the side of the game board 9. The blow hammer 54 is arranged at the anterior of a housing 19 etc. corresponding to the discharge rail 53, and is supported to revolve by the adapter plate 58 free [ rocking ] by the pivot of a cross direction so that the game sphere on the discharge rail 53 may be hit. As shown in drawing 5 , the discharge handle 57 is formed in the front end section side of the support cylinder 62 which penetrates the through-hole 61 by the side of a front panel 5, and projects in an anterior, and a game person grasps it by the anterior of a front panel 5, and it has come to be able to carry out rotation operation of him. In addition, the piece of a touch of a touch switch (illustration ellipsis) which detects grasping or operation of a game person is prepared in the discharge handle 57.

[0027] The part by the side of the discharge rail 53 and the discharge rail 53 of a guide rail 25 is prepared in the wrap rail covering 63 from the anterior by the anterior of the discharge rail 53. The supporter material 64 constructed over the front panel 5 by the longitudinal direction is equipped with this rail covering 63 free [ attachment and detachment ].

[0028] As shown in drawing 3 , drawing 5 , and drawing 8 , between the discharge means 10 side and the game board 9 side, the circulation path 65 containing these for game spheres is formed in the shape of a closed loop, and two or more game spheres are enclosed in the circulation path 65. The circulation path 65 is equipped with the discharge side path 66 of showing the game sphere discharged by the discharge means 10 to the game board 9 side, and the return-end path 67 which



returns the game sphere which passed to the background of the game board 9 to the discharge means 10 side. The discharge side path 66 is constituted by the discharge rail 53 and guide-rail 25 grade, and the return-end path 67 is constituted by the sphere set case 46, the standby path 68, and the sphere informer stage 69 grade.

[0029] The standby path 68 is for making the game sphere which passed the game board 9 and has returned stand by, it makes a longitudinal direction incline and it is equipped with it free [ attachment and detachment ] so that the discharge means 10 side may become low at the front frames 2 side, such as a background of a housing 19, and the upstream is opening it for free passage from the bottom to the exhaust port 42 of the sphere set case 46 in the soffit of the game board 9, and the position in which it does not interfere. The sphere informer stage 69 is for discharge operation of the discharge means 10 being interlocked with, and sending one game sphere in the standby path 68 at a time to up to the discharge rail 53, and the housing 19 grade is equipped with it free [ attachment and detachment ] between the discharge rail 53 and the downstream edge of the standby path 68.

[0030] In addition, although more than the required minimum number (for example, about 16-25 pieces) of one game of the enclosure number of the game sphere in the circulation path 65 is desirable, it should just have more than one at least. Moreover, as for the standby path 68, it is desirable that it is the length of the grade where all the game spheres for the enclosure number or a part of downstream (some grade) aligns in the shape of a single tier.

[0031] The medal sorting means 11 is for sorting out the right or wrong of the medal thrown in from the below-mentioned medal input port 75, and as shown in drawing 6 and drawing 8, corresponding to medal input port 75, the housing 19 grade is equipped with it free [ attachment and detachment ]. And during movement of a medal, this medal sorting means 11 distinguishes right or wrong on the basis of a weight, an appearance, the quality of the material, etc., returns a faulty medal through the return chute 76 to below-mentioned medal \*\*\*\*\* 77 according to the distinction result, and shows a normal (it is regular) medal to the medal chute 12 of the medal hopper 6. The medal pilot switch 78 for detecting a regular medal for the medal sorting means 11 is formed in the downstream rather than the distinction section.

[0032] The front panel 5 is divided into the plurality of the glass door 82 corresponding to the anterior of the game board 9, and other portions at least. For example, the top of the panel 83 arranged at the glass door 82 bottom other than the glass door 82 corresponding to the front-face side of the game board 9 as a front panel 5 is shown in drawing 5 and drawing 6, It is divided into the plurality of the middle panel 84 arranged at the glass door 82 bottom, and the under panel 85 arranged at the middle panel 84 bottom. The top of the panel 83 except the under panel 85, the glass door 82, and the middle panel 84 are individually pivoted free [ opening and closing ] to the front frame 2 by the lengthwise hinge 86 by the same

side as the hinge 4 of the front frame 2.

[0033] The glass door 82 is equipped with the door frame 88 with which the window hole 87 corresponding to the game field 26 of the game board 9 was formed, and the glass plate 89 with which the door frame 88 was equipped so that the window hole 87 might be plugged up. The top of the panel 83 is arranged at the upper part side of the front frame 2, and it is equipped with an up display means 81 to display a game state, other game states, etc. specially. The up display means 81 is equipped with the display covering 90 with which the top of the panel 83 was equipped free [ attachment and detachment ], and one piece or two or more display lamps 91 which were prepared in the display covering 90, and the display lamp 91 carries out blink luminescence according to a game state. While the display covering 90 covers the abbreviation full of the longitudinal direction of the main part 3 of a game machine and projects ahead, the anterior is constituted in the shape of an inclination lower in the back.

[0034] As the middle panel 84 is shown in drawing 5 - drawing 7 , the bottom wall section 93 which the display-panel section 95 and the control-panel section 96 which incline to have the buckling-of-track section 94 jutted out ahead, and fall a front in the upper part side of this buckling-of-track section 94 are prepared, and is back crooked from the soffit to the front frame 2 side to the buckling-of-track section 94 down side is formed. In addition, the soffit section of the middle panel 84 laps with the upper-limit section of the under panel 85 up and down in contact with the upper-limit section of the under panel 85 from an anterior, when it dissociates with the under panel 85 above the discharge handle 57 and the middle panel 84 is closed so that it may not interfere with the discharge handle 57 at the time of the opening and closing. The background of the under panel 85 is equipped with the voice generating meanses 92 ( drawing 10 ), such as a loudspeaker, free [ attachment and detachment ]. Moreover, the rear-face side of the middle panel 84 94, for example, the buckling-of-track section, is equipped with the deposition substrate case 104 which contained the deposition control board 103 free [ attachment and detachment ].

[0035] The display-panel section 95 is formed in a longitudinal direction long and slender near the lower side side of the glass door 82, and the control-panel section 96 is formed in the near side of this display-panel section 95. The winning-a-prize display means 97 is formed in a part for the abbreviation center section of a longitudinal direction at the display-panel section 95, the medal numeral means 98 is formed in one side of the longitudinal direction of this winning-a-prize display means 97, and the score display means 99 is formed in another side, respectively. In addition, although the degree of tilt angle is size from the control-panel section 96 as it is easy to check the display state of each display meanses 97-99 and it becomes, you may make the display-panel section 95 into the control-panel section 96 and an abbreviation same angle.

[0036] The winning-a-prize display means 97 is equipped with each winning-a-prize

mouth 38 of the winning-a-prize mouth means 27, and the corresponding plurality 100, for example, 16 winning-a-prize displays, and it is arranged in the shape of a horizontal single tier so that each of that winning-a-prize display 100 may carry out phase correspondence with each winning-a-prize mouth 38 of the winning-a-prize mouth means 27 and may approach a cross direction. And when a game sphere wins a prize of which winning-a-prize mouth 38, as for each winning-a-prize display 100, the winning-a-prize display 100 corresponding to it displays the winning a prize on a game person by luminescence and others. Corresponding to each winning-a-prize mouth 38, the number is given to each winning-a-prize display 100 in an order from the end side. In addition, you may arrange the winning-a-prize display means 97 in the center section of the game field 26 above the winning-a-prize mouth means 27 etc., combining the winning-a-prize display 100 a predetermined number (for example, four pieces) every in all directions.

[0037] It is suitably constituted by the display means so that it is for the medal numeral means 98 displaying the possession number of sheets (the number of deposition medals) of the medal thrown in from medal input port 75, and it may be for displaying the score for un-paying out of the score to which the score display means 99 was given by formation of the role of winning a prize, or the medal for premiums and these may display the number of a medal, and a score numerically. In addition, it replaces with the score display means 99, or an acquisition medal numeral means is established with the score display means 99, and you may make it display the number of acquisition medals or the number of acquisition medals for un-paying out gained according to the score by the acquisition medal numeral means.

[0038] Medal input port 75, the manual selecting switch 105, the automatic selecting switch 106, and the return switch 107 are formed in the control-panel section 96.

[0039] Medal input port 75 is arranged by the one side of the longitudinal direction of the control-panel section 96 in the edge of the side near hinges 4 and 86, or its near, and the manual selecting switch 105, the automatic selecting switch 106, and the return switch 107 are arranged in the shape of a single tier rather than this medal input port 75 at the longitudinal direction at the central site of a longitudinal direction.

[0040] the thing for medal input port 75 throwing in the medal as a game countervalue, and depositing -- it is -- two or more sheets of the number of conventions required for at least 1 game -- desirable -- a part for two or more games -- many -- it is constituted in the shape of [ of the size which can throw in the medal of several sheets ] a hopper In addition, outlet 75a by the side of the lower part of medal input port 75 is narrow so that it can supply a medal one sheet at a time to the medal sorting means 11.

[0041] the outside of medal input port 75 -- many -- it is equipped with an oscillating grant means 108 to fine-shake medal input port 75 so that a medal may align by the outlet 75a side when the medal of several sheets is thrown in The oscillating grant means 108 operates, when a medal is thrown into medal input port

75. In addition, the number of medals below the number of conventions which needs one-time injection number of sheets for one game, for example, the thing of the grade into which it can throw a medal one sheet at a time, is sufficient as medal input port 75.

[0042] The manual selecting switch 105 is for enabling a start of an every one game game for the operation of every, when this manual selecting switch 105 is operated, it performs processing which subtracts two or more sheets of the number of conventions which is a game countervalue for one game, for example, the medal for four sheets, and the start of the game for one game of it is attained from the number of deposition medals which is a deposition countervalue.

[0043] The automatic selecting switch 106 is for setting and enabling the start of a game of a predetermined idle period continuously repeatedly, if there is a deposited part of the medal more than the number of conventions which is a game countervalue for one game when this automatic selecting switch 106 is operated, unless the manual selecting switch 105 will be operated, it performs processing which subtracts the medal of the number of conventions from the deposition medal before the start of each game, and a start of a game is attained after that in it.

[0044] The return switch 107 is for asking for return of a deposition medal, and when this return switch 107 is operated, the expenditure means 14 operates and it pays a deposited medal out of the medal hopper 6.

[0045] The thing of a push button formula and others is used for the manual selecting switch 105, the automatic selecting switch 106, and the return switch 107. Moreover, selection display meanses (illustration ellipsis), such as a lamp, are prepared in the control unit side, and a selection situation is expressed to the manual selecting switch 105 and the automatic selecting switch 106 as the selection display means. In addition, you may establish a selection display means near the manual selecting switch 105 and the automatic selecting switch 106.

[0046] The under panel 85 is being fixed to the lower part side of the front frame 2. The medal saucer 109 and medal \*\*\*\*\* 77 are formed in the center of abbreviation of the longitudinal direction by the side of the lower part forward and backward, and it is the one side of the longitudinal direction of the medal saucer 109, and \*\*\*\*\* 111 is formed for the ash pan 110 in the under panel 85 at the opposite side at the side near hinges 4 and 86, respectively. The medal saucer 109, an ash pan 110, and \*\*\*\*\* 111 are ahead projected from the under panel 85, and the front end has become flat-tapped [-like ]. In addition, the through-hole 61 which makes a cross direction penetrate the support cylinder 62 which supports the discharge handle 57 is formed in the under panel 85.

[0047] The medal saucer 109 is for storing the medal paid out of the expenditure means 14, the poor medal returned through the return chute 76. Medal \*\*\*\*\* 77 is for showing the medal paid out of the expenditure means 14, and the poor medal returned through the return chute 76 to the medal saucer 109, and it is prepared in the medal saucer 109 at one or another object so that it may project in back from

the under panel 85.

[0048] There is a discharge handle 57 in the \*\*\*\*\* 111 bottom, and these \*\*\*\*\* 111 and the discharge handle 57 are arranged to hinges 4 and 86 and medal input port 75 in the edge of the opposite side of a longitudinal direction, or its near. \*\*\*\*\* 111 is for carrying a part of hand, when operating the discharge handle 57, and the interval of this \*\*\*\*\* 111 and the discharge handle 57 is set as the grade which can operate the state which carried a part of hand on \*\*\*\*\* 111, or the discharge handle 57, and can be operated also in the state where it does not carry.

[0049] Moreover, the crevice 112 which turns a reentrant to the buckling-of-track section 94 of the middle panel 84 circularly up is formed, and when it \*\*\*\*\* with the discharge handle 57 and the discharge handle 57 is grasped between the sections 94, the interval of the grade to which a hand does not contact the buckling-of-track section 94 of the middle panel 84 is secured to the discharge handle 57 bottom.

[0050] Drawing 10 is the block diagram of the control system of an arrangement ball machine. This control system is divided according to two or more kinds of control functions to attain single functionalization of a substrate, as shown in drawing 10, is divided into the power supply substrate 17, the expenditure control board 22, the main-control substrate 47, the lamp display control board 49, the voice-control substrate 51, the discharge control board 59, and the deposition control board 103, and is mounted according to each of that control function.

[0051] The main-control substrate 47 is for mainly controlling game operation by the side of the game board 9, and this main-control substrate 47 is equipped with the main-control means 120. The main-control means 120 is equipped with the winning-a-prize processing means 121, the random-number-generation means 122, the game state judging means 123, the increase equipment 124 in guidance, the settlement-of-accounts processing means 125, the game selection-control means 126, the return control means 127, and control command transmitting means 128 grade, and is constituted by electronic parts, such as CPU, ROM, and RAM.

[0052] A winning-a-prize processing means 121 is for performing the winning-a-prize processing relevant to winning a prize of the game sphere to winning-a-prize mouth means 27 grade, and when a game sphere wins a prize of the winning-a-prize mouth 38 grade of the winning-a-prize mouth means 27, it has the function of making a winning-a-prize display performing to the winning-a-prize display 100 of the winning-a-prize display means 97 corresponding to each winning-a-prize mouth 38 after decision of the winning a prize, and the function of judging the right or wrong of the role of winning a prize after decision of winning a prize. The random-number-generation means 122 repeats the random number for game state determination, and other predetermined random numbers, and is generated.

[0053] The game state judging means 123 is for judging the game state of being a game specially based on the lottery random number value from the random-number-

generation means 122. On condition that the operation means 30 detects a game sphere, lots are cast in the generating random number value of the game state determination random number of the random-number-generation means 122, when the lottery random number value is a game judging random number value specially, it judges with a game specially, and it judges with an un-special game specially at the times other than a game judging random number value.

[0054] The increase equipment 124 in guidance is for constituting a special game state generating means 129 to generate a special game state advantageous to a game person. When the judgment result of the game state judging means 123 is a game specially, after guidance pattern 28a after change of the guidance pattern display means 28 stops [ "7 / 7, 7", ] in a mode specially The number of predetermined games (two or more games), for example, 14 games, is covered, a game state is generated specially, the operation means 31 is confirmed, and a score is made to increase, on condition that a game sphere wins a prize of the increase means 24 in a score (for example, double precision).

[0055] The settlement-of-accounts processing means 125 is for performing settlement-of-accounts processing of giving game value, such as a score, for every game, and if a game sphere enters to the increase means 24 in a score when a score is given when the winning-a-prize processing means 121 judges formation of the role of winning a prize, and a game state generates specially, it will make the score till then increase to double precision.

[0056] The game selection-control means 126 is for choosing an independent game and a continuation game based on operation of the manual selecting switch 105 and the automatic selecting switch 106, and when the automatic selecting switch 106 is operated for the independent game which performs one game for the operation of every when the manual selecting switch 105 is operated, it chooses the continuation game which sets the predetermined quiescent time and performs a game continuously, respectively. The return control means 127 are for reading the number of deposition medals from the deposition control board 103, when there is operation of the return switch 114, paying out the deposition medal, and making it pay out by the means 14.

[0057] The control command transmitting means 128 is for transmitting control command to each control boards 22, 34, 49, 51, and 59, 103 by 1 direction communication. The function to transmit the control command of pattern change to the pattern control board 34 side based on the judgment result of the game state judging means 123, The function to pay out based on the score of the settlement-of-accounts processing means 125, and to transmit the control command of medal expenditure to a control board 22, The function to transmit the control command of return of the deposition medal from the return control means 127, The function to transmit the control command of voice generating to the voice-control substrate 51 side based on game states, such as generating of a game state, specially, The function to transmit the control command of lamp display to the lamp display control

board 49 side based on game states, such as generating of a game state, specially, It has the function to transmit the control command of game sphere discharge to the discharge control board 59 side based on the selection result of the game selection-control means 126, the function to transmit the control command of deposition control to the deposition control board 103 based on the selection result of the game selection-control means 126, etc.

[0058] The deposition control board 103 is for performing control about the deposited medal. The function which adds to the number of deposition medals while memorizing the number of injection medals one by one, and updates the number of deposition medals, The function which makes a game countervalue the medal for several convention minutes required for one game, and carries out subtraction processing from the number of deposition medals before the start for every game based on the selection result of the independent game of the game selection-control means 126, and a continuation game, Whenever it updates the number of deposition medals, it has the function to which the number of deposition medals at the time is displayed on the medal numeral means 98, and is constituted by CPU, ROM, RAM, etc. In addition, the deposition control board 103 subtracts the medal of the number of conventions for every game, respectively, when the manual selecting switch 105 is operated and the automatic selecting switch 106 is operated for the operation of every again.

[0059] When the electric current is cut off in a main-power-supply means to supply electric power to each part, and a game, a backup power supply means to make storage of the game state of the main-control means 120 hold etc. is prepared in the power supply substrate 17. The expenditure control board 22 is equipped with CPU, ROM, RAM, etc., when there is a command of expenditure from the main-control substrate 47 side, it pays them out, operates a means 14 and makes the object for premiums, or the medal for return it to be for performing expenditure control of the medal for premiums based on a score, and pay out.

[0060] The lamp display control board 49 is for performing the display control of one piece or two or more display lamps 130 by the side of the game board 9 and/or a front panel 5 based on a game state, and when it has CPU, ROM, RAM, etc. and there is control command from the main-control substrate 47 side, it emits light or emits [ blink ] light for a display lamp 130. The voice-control substrate 51 is for controlling voice, such as a sound effect which the voice generating means 92 generates based on a game state, and when it has CPU, ROM, RAM, etc. and there is control command from the main-control substrate 47 side, it generates predetermined voice from the voice generating means 92.

[0061] When the discharge control board 59 is for setting the predetermined quiescent time for every end of each game, and performing discharge control of the discharge means 10 and the manual selecting switch 105 is operated On condition that the deposition control board's 103 having performed subtraction processing of the medal of the number of conventions and a game person operate the discharge

handle 57 of the discharge means 10. The discharge means 10 is operated based on the independent game of the game selection-control means 126, and a continuation game, and the operation is made to continue until the discharge means 10 drives the game sphere of a predetermined number (16 pieces) into the game field 26.

Therefore, a control system will be in the state which can start a game, if the medal more than the number of conventions is thrown into medal input port 75.

[0062] The pattern control board 34 is for performing change control of guidance pattern 28a of the guidance pattern display means 28 according to the judgment result of the game state judging means 123. Guidance pattern 28a starts change of a predetermined time by detection of the game sphere of the operation means 30. When the judgment result of the game state judging means 123 is a game specially, in the case of special modes, such as "7, 7, and 7", and an un-special game, guidance pattern 28a after predetermined-time change is specially stopped in a mode or an un-special mode based on a judgment result that it should stop in an un-special mode, respectively.

[0063] Next, operation in the arrangement ball machine of the above-mentioned composition is explained. On the occasion of the start of a game, the medal of two or more sheets more than the number of conventions required for one game is thrown into medal input port 75. Then, each medal aligns within medal input port 75, goes into the medal sorting means 11, and receives distinction of right or wrong with the medal sorting means 11, a poor medal is returned to the medal saucer 109 from the return chute 76, and only a regular medal falls to the medal hopper 6 through the medal chute 12.

[0064] At this time, a regular medal is detected, counting of the number of medals is carried out by the deposition control board 103 side, and the medal pilot switch 78 adds to the number of deposition medals under storage, and updates. Since subtraction processing of the medal of the number of conventions is attained as a game countervalue by this, a start of a game is attained. Moreover, if a medal is thrown in, the medal numeral means 98 will display the number of deposition medals by control of the deposition control board 103. For this reason, a game person can check easily the number of deposition medals at the time by the display.

[0065] Next, if the manual selecting switch 105 is operated, the game selection-control means 126 will send instructions of an independent game to each part of the deposition control board 103, the discharge control board 59, and others, processing to which the deposition control board 103 subtracts and updates several convention minutes from the number of deposition medals will be performed, and discharge of a game sphere of the discharge means 10 will actually be attained by this. In addition, if the deposition control board 103 performs subtraction processing, the medal numeral means 98 will display the number of deposition medals after the subtraction.

[0066] Then, if a game person grasps and operates the discharge handle 57, the discharge control board 59 will operate the discharge means 10 based on instructions of the independent game from the game selection-control means 126.



The sphere informer stage 69 supplies one game sphere in the standby path 68 at a time on the discharge rail 53, and the game sphere on the discharge rail 53 is hit by the blow hammer 54, a himself is devoted to the game field 26 of the game board 9 through a guide rail 25 one by one, and the usual game advances by this.

[0067] After the game sphere driven into the game field 26 wins a prize of which winning-a-prize mouth 38 of the winning-a-prize mouth means 27, or wins a prize of specific winning-a-prize means 29 grade and is guided to the background of the game board 9, it is returned to the standby path 68 one by one through the sphere set case 46, and goes. For example, if a game sphere wins a prize of which winning-a-prize mouth 38 of the winning-a-prize mouth means 27, the game sphere will be guided from the winning-a-prize mouth 38 to the background of the game board 9, and will be returned to the standby path 68 through the sphere set case 46.

Moreover, when a game sphere passes from the winning-a-prize mouth 38 to the background of the game board 9, the winning-a-prize pilot switch 39 detects the game sphere, and the winning-a-prize display 100 to which the winning-a-prize display means 97 corresponds by winning-a-prize processing of the winning-a-prize processing means 121 displays winning a prize.

[0068] If a game sphere wins a prize of the four adjacent winning-a-prize mouth 38 among the winning-a-prize mouths 38 of the winning-a-prize mouth means 27 and the role of winning a prize is materialized, the winning-a-prize processing means 121 will judge formation of the role of winning a prize, the settlement-of-accounts processing which the settlement-of-accounts processing means 125 gives in a score according to the difficulty of formation of the role of winning a prize will be carried out, and the score display means 99 will display the score. For this reason, a game person can check easily the score gained in the game by the display of the score display means 99.

[0069] On the other hand, if a score is given, the expenditure means 14 pays out, it will operate by control of a control board 22, and the medal in the medal hopper 6 will be paid out of the medal expenditure mouth 16 to the medal saucer 109 according to the score. A game person can enjoy predetermined profits by this. In addition, the score per game is a maximum of ten points, and there is four expenditure number of sheets of the medal per point.

[0070] If the operation means 30 detects winning a prize of a game sphere, while the game state judging means 123 will judge whether lots are cast and the generating random number value of the random-number-generation means 122 is specially made into a game from the lottery random number value, guidance pattern 28a of the guidance pattern display means 28 starts change by control of the pattern control board 34. After carrying out predetermined-time progress from a change start, guidance pattern 28a stops in the special mode or un-special mode of a kind determined by the pattern control board 34 side so that it may become a mode specially based on the judgment result of the game state judging means 123 when the judgment result is a game specially, and it may become an un-special mode at

the time of an un-special game.

[0071] If guidance pattern 28a is specially stopped and decided in a mode, opening-and-closing object 29a of the specific winning-a-prize means 29 will open. And the increase equipment 124 in guidance of the interior which constitutes the game state generating means 129 specially if operating-space 29b is passed specially operates [ the game sphere which won a prize of the specific winning-a-prize means 29 ], the operation means 31 becomes effective, and whenever a game sphere wins a prize of this operation means 31, the increase means 24 in a score carries out predetermined-time opening. And if a game sphere wins a prize by opening of the increase means 24 in a score, since processing which the score which the settlement-of-accounts processing means 125 gained in the game is made to increase to double precision will be performed and a medal will pay out according to the score, a game person can perform a game in the advantageous state.

[0072] Therefore, when a judgment result is a game specially, the effective state of the operation means 31 continues until it ends 14 games from the game. For this reason, once a score will increase to double precision and will be in a game state specially for 14 games, a game person can enjoy great profits after that.

[0073] If 16 game spheres are driven into the game field 26, the discharge means 10 will stop by control of the discharge control board 59, one game will be completed, and it will be in predetermined-time hibernation to the following game. Therefore, although the game selection-control means 126 and deposition control board 103 grade function similarly even if it operates the manual selecting switch 105 during the quiescent time, the discharge means 10 is not \*\*\*\*\* (ed) immediately, but operates after progress of the quiescent time, and starts discharge of a game sphere.

[0074] When the automatic selecting switch 106 is operated, as long as it is more than the number of conventions that needs the number of deposition medals for one game, based on instructions of the continuation game of the game selection-control means 126, the deposition control board 103 performs subtraction processing of the medal of the number of conventions for every game, and the discharge means 10 drives in the game sphere of a predetermined number to the game field 26 for every game. Therefore, a game person only operates the discharge handle 57, and he can perform a game continuously automatically, setting the predetermined quiescent time.

[0075] When the return switch 114 is operated, the return control means 127 order it return, on condition that the deposition control board 103 side has storage of the number of deposition medals, by control of the expenditure control board 22, the expenditure means 14 operates and the medal for several deposition medal minutes is paid out of the medal hopper 6 to the medal saucer 109.

[0076] Drawing 9 shows the state where the game board 9 was removed from the front frame 2. On the rear cover 45 by the side of the rear face of the game board 9, since it is equipped with the main-control substrate 47, the lamp display control

board 49, and the voice-control substrate 51, in case the game board 9 is exchanged and a model substitute is performed, each [ these ] control boards 47, 49, and 51 can also be simultaneously exchanged with the game board 9, and-izing of the model change work can be carried out [ easy ]. Moreover, since these control boards 47, 49, and 51 are formed on the common rear cover 45 as a substrate attachment member, while part mark are reducible compared with the case where it equips on a member with basis sheet cutting different, respectively Since these control boards 47, 49, and 51 can be arranged intensively, it simplifies-izing of the wiring between these control boards 47, 49, and 51 or between other control boards can be carried out [ \*\*\*\* ], and reduction of manufacture cost is attained.

[0077] Furthermore, although the rear cover 45 was projected and formed behind the front frame 2 including each substrates 47, 49, and 51 with which the rear-face side is equipped, since they were arranged so that it may be located above medal expenditure equipment 70, where the front frame 2 is closed, it could make small the size of the cross direction of an outer frame 1, and thin shape-ization of the main part 3 of a game machine of it was attained.

[0078] Moreover, since it constitutes from this operation gestalt possible [ a start of a game ] on condition that the regular medal of two or more sheets is thrown into medal input port 75, unlike the conventional exclusive medal, a game can also be performed using the medal for game machines besides the low of value, such as using the medal for slot machines.

[0079] Moreover, the circulation path 65 of the shape of a closed loop which includes the return-end path 67 which returns a game sphere to the discharge means 10 from the discharge side path 66 of showing a game sphere to the game board 9 from the discharge means 10, and the game board 9 is constituted, since the filled system which enclosed two or more game spheres into this circulation path 65 is adopted, the handling of a game person's game sphere is unnecessary, and processing of a medal can perform a game.

[0080] Drawing 11 and drawing 12 illustrate the 2nd operation gestalt of this invention, and show the example which formed the member 79 with basis sheet cutting which can equip with two or more control boards independently [ a rear cover 45 ] in the rear-face side of the game board 9. The pattern substrate case 35 which was back jugged out over the upper part by the side of the rear face greatly and with which it \*\*\*\*\*, section 45a is formed and it was equipped in this buckling-of-track section 45a at its guidance pattern display means 28 and rear-face side is arranged, and the rear cover 45 is equipped with the main substrate case 48 where the main-control substrate 47 was stored on crevice 45b under buckling-of-track section 45a, free [ attachment and detachment ]. Furthermore, behind the sphere set case 46 grade, it is equipped with the member 79 with basis sheet cutting free [ attachment and detachment ] through the attachment boss section 80 at the rear-face side of the game board 9 with the rear-cover 45 down side. The rear-face side of the member 79 with basis sheet cutting is equipped with

the lamp display substrate case 50 which contains the lamp display control board 49, and the voice substrate case 52 which contains the voice-control substrate 51 free [ attachment and detachment ]. Here, the lamp display control board 49 and the voice-control substrate 51 are examples of two or more electrical circuit substrates. [0081] Thus, when sufficient space which equips the rear-face side of a rear cover 45 with a control board when buckling of track to the back of a rear cover 45 is large is not securable, a rear cover 45 is possible also for equipping the rear-face side of the game board 9 with the member 79 with basis sheet cutting independently, and equipping with two or more control boards on it. Since each control boards 34, 47, 49, and 51 can also be simultaneously exchanged with the game board 9 in case the game board 9 is exchanged also in this case and a model substitute is performed, -izing of the model change work can be carried out [ easy ]. moreover, the substrate attachment with common control boards 49 and 51 — substrate attachment which is different, respectively since it is prepared on the member 79 — a member — since these control boards 49 and 51 can be intensively arranged while part mark are reducible compared with the case where it equips upwards, it simplifies, -izing of the wiring between these control boards 47, 49, and 51 and other control boards can be carried out [ \*\*\*\* ], and reduction of manufacture cost is attained

[0082] As mentioned above, although each operation gestalt of this invention was explained in full detail, change various by within the limits which is not limited to this operation gestalt and does not deviate from the meaning of this invention is possible. For example, you may form the pattern control board 34 on a rear cover 45 or the member 79 with basis sheet cutting.

[0083] The control board with which the rear-face side of the game board 9 is equipped does not need to be combination as shown in the operation gestalt. For example, when it is the composition which can be used in common by the lamp display control board 49 and the voice-control substrate 51 even if models differ, as for these control boards 49 and 51, it is desirable to equip the front frame [ not the rear face of the game board 9 but ] 2 side.

[0084] Moreover, it is not restricted to what was shown in each operation gestalt about the composition of each control board. For example, you may omit the deposition control board 103 and may also include the deposition control means replaced with the deposition control board 103 in the main-control substrate 47 side. Moreover, you may prepare the winning-a-prize display-control substrate which controls the winning-a-prize display of the winning-a-prize display means 97 independently [ the main-control substrate 47 ]. In addition, what is necessary is just to determine suitably the number of the control boards 22, 34, 47, 49, 51, and 59,103 if needed, when dividing control boards 22, 34, 47, 49, 51, and 59,103 according to each control function. It is also possible to subdivide the control function of instantiation further in an operation gestalt, and to form control boards 22, 34, 47, 49, 51, and 59,103 corresponding to the each, and it is also possible to

give two or more kinds of control functions to some control boards 22, 34, 47, 49, 51, and 59,103.

[0085] You may contain two or more control boards with which it equipped on the rear cover 45 or the member 79 with basis sheet cutting in one substrate case. Moreover, it is good also considering the substrate case itself as a substrate attachment member.

[0086] With an operation form, although it is made to carry out counting of the medal thrown in from medal input port 75 by the deposition control board 103 one sheet at a time, two or more sheets of a convention may be detected as a unit, and on condition that the detection, you may enable the start of a game of them.

[0087] As long as there is a deposition medal required for a game and it is operating the discharge handle 57 although it is made to choose a hand control and automatic exception with an operation gestalt when enabling a start of a game by injection of the medal of two or more sheets, the predetermined quiescent time is set and you may make it repeat a game automatically. Also in this case, if it constitutes so that it may wait for the end of the game, or progress of a predetermined time and continuation of a game may be stopped when its hold of the piece of a touch of the discharge handle 57 is released, it will be satisfactory specially.

[0088] When preparing the selecting switch which chooses hand control and automatic, it is not necessary to form separately the manual selecting switch 105 and the automatic selecting switch 106 like an operation gestalt, and you may make it choose hand control and automatic by one selecting switch. In this case, hand control and an automatic distinction are easily possible for a game person by preparing a manual selection display means and an automatic selection display means in the suitable part near the selecting switch etc. In addition, you may make it display automatic and hand control identifiable by the color of the display, the existence of blink, etc., using a selection display means as one piece.

[0089] moreover, with an operation gestalt, when the manual selecting switch 105 is operated Although the deposition control board 103 is made to perform subtraction processing of the medal of the number of conventions before the start of each of that game by the operation when the deposition control board 103 performs subtraction processing of the medal of the number of conventions before the start of the game and operates the automatic selecting switch 106 by the operation On condition that a game person operates the discharge handle 57 after an injection of a medal in any case, the deposition control board 103 may be made to perform subtraction processing of the medal of the number of conventions before the start of a game.

[0090] When there is no deposition medal, after throwing in the medal of the number of conventions, even if it does not operate the manual selecting switch 105, you may constitute so that the deposition control board 103 may process automatically and may enable the start of a game of the medal (program etc.).

[0091] Although the main part 3 of a game machine was constituted from an outer

frame 1 and a front frame 2 of the anterior and the front panel 5 is formed in the front-face side of the front frame 2 with the operation gestalt, an outer frame 1 and the front frame 2 may be made into one, the main part 3 of a game machine may be constituted, and a front panel 5 may be formed in the front-face side of this main part 3 of a game machine free [ opening and closing ]. There is not necessarily no need of dividing the front panel 5 into plurality, in forming a front panel 5 in the front face of the main part 3 of a game machine. The whole front panel 5 containing the glass door 82 may be constituted in one, and one is sufficient as the front frame 2 and a front panel 5. You may form the front panel 5 free [ opening and closing ] to the main part 3 of a game machine. There is not four number of sheets of a medal required for one game, and it should just be one or more sheets. Moreover, you may make usable two or more kinds of medals.

[0092] Moreover, when it did not pay out each time, but it displays on the medal numeral means 98 while adding and updating the number of acquisition medals to the upper limit one by one to the number of deposition medals for every game, for example, the return switch 114 is operated, you may make it pay out the deposition medal containing a part for an acquisition medal collectively, although the medal which the game person gained was paid out to the medal saucer 109 for every game with the operation gestalt.

[0093] What is necessary is just to give not only grant of a score but predetermined game value, although it is made to give a score with an operation gestalt when the role of winning a prize is materialized.

[0094] Furthermore, although illustrated about the arrangement ball machine with the operation gestalt, it cannot be overemphasized that it can carry out similarly with various kinds of combination game machines, such as a mahjong ball game machine besides an arrangement ball machine.

[0095]

[Effect of the Invention] The front frame 2 attached in an outer frame 1 and this outer frame 1 possible [ opening and closing ] in this invention, It is prepared the game board 9 for combination games with which this front frame 2 is equipped removable, and in an outer frame 1. Having medal expenditure equipment 70 which pays out a medal in relation to winning a prize, and driving the game sphere of a predetermined number into the game field 26 of the game board 9 for every game In the combination game machine which set the predetermined quiescent time for the end of every, and made the game repeatable Since the background of the game board 9 is equipped with the members 45 and 79 with basis sheet cutting which equip with two or more electrical circuit substrates the position which avoided medal expenditure equipment 70, while being able to make a model change including exchange of a substrate efficiently only by exchanging the whole game board 9 Curtailment of part mark and simplification of wiring between each substrate are attained, and manufacture cost can be reduced. Moreover, thin shape-ization of the main part 3 of a game machine also becomes possible.

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[Translation done.]

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3.In the drawings, any words are not translated.

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**DESCRIPTION OF DRAWINGS**

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[Brief Description of the Drawings]

[Drawing 1] It is the front view of the arrangement ball machine in which the 1st operation gestalt of this invention is shown.

[Drawing 2] It is the side elevation of the arrangement ball machine in which the 1st operation gestalt of this invention is shown.

[Drawing 3] It is the rear view of the front frame in which the 1st operation gestalt of this invention is shown.

[Drawing 4] It is the front view of an outer frame showing the 1st operation gestalt of this invention.

[Drawing 5] It is drawing of longitudinal section of the arrangement ball machine in which the 1st operation gestalt of this invention is shown.

[Drawing 6] It is drawing of longitudinal section of the arrangement ball machine in which the 1st operation gestalt of this invention is shown.

[Drawing 7] It is the cross-sectional view of the arrangement ball machine in which the 1st operation gestalt of this invention is shown.

[Drawing 8] It is drawing of longitudinal section of a return-end path portion showing the 1st operation gestalt of this invention.

[Drawing 9] It is the perspective diagram of the game board and a front frame showing the 1st operation gestalt of this invention.

[Drawing 10] It is the block diagram of a control system showing the 1st operation gestalt of this invention.

[Drawing 11] It is the side elevation of the arrangement ball machine in which the 2nd operation gestalt of this invention is shown.

[Drawing 12] It is the rear view of the arrangement ball machine in which the 2nd operation gestalt of this invention is shown.

[Description of Notations]

1 Outer Frame

2 Front Frame  
9 Game Board  
26 Game Field  
28 Guidance Pattern Display Means  
28a Guidance pattern  
34 Pattern Control Means  
45 Rear Cover  
47 Main-Control Substrate  
49 Lamp Display Control Board  
51 Voice-Control Substrate  
65 Circulation Path  
66 Discharge Side Path  
67 Return-End Path  
70 Medal Expenditure Equipment  
79 Member with Basis Sheet Cutting  
92 Voice Generating Means  
130 Display Lamp

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[Translation done.]

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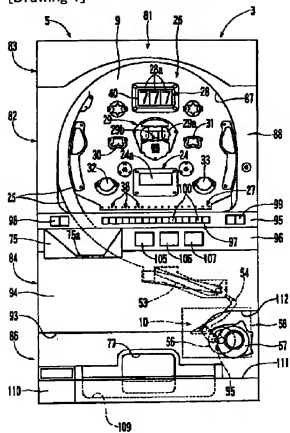
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DRAWINGS

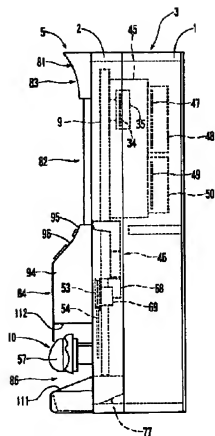
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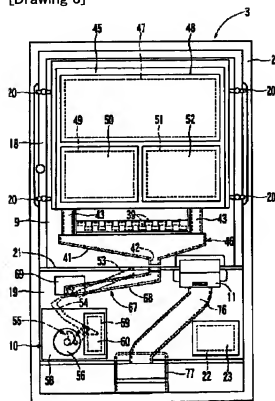
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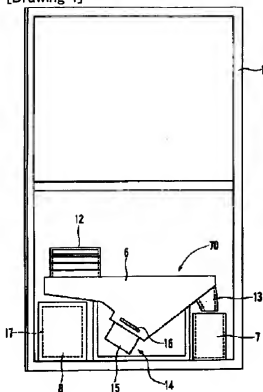
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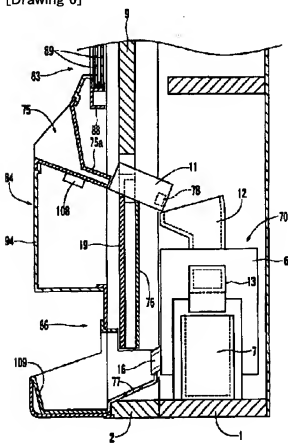
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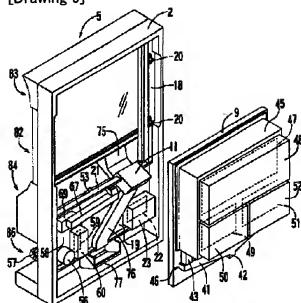
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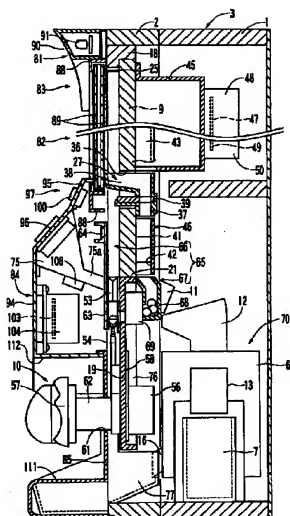
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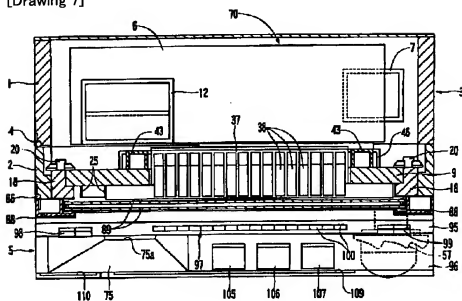
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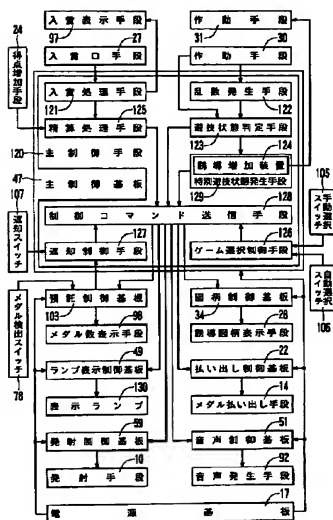
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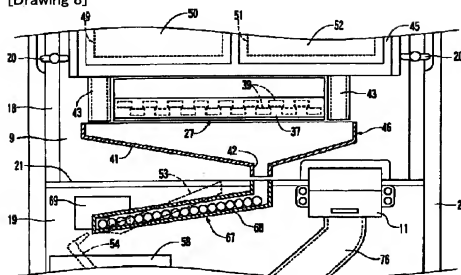
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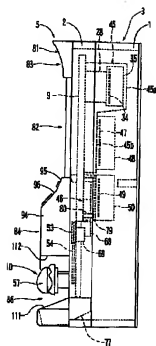
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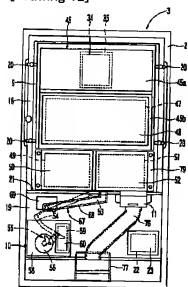
[Drawing 8]



[Drawing 11]



[Drawing 12]



[Translation done.]